

CYNGOR BWRDEISTREF SIROL RHONDDA CYNON TAF
RHONDDA CYNON TAF COUNTY BOROUGH

2026 Adroddiad Cynnydd o Ansawdd Aer

Medi 2026

2026 Air Quality Progress Report

September 2026



Wrth gyflawni Rhan IV o Ddeddf yr Amgylchedd 1995
Rheoli Ansawdd Aer Lleol

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management

Mae'r Adroddiad ar Gynnydd 2026 wedi ei baratoi a'i gyhoeddi gan Gyngor Bwrdeistref Sirol Rhondda Cynon Taf yn unol â'i ddyletswyddau o dan Adran IV o Ddeddf yr Amgylchedd 1995 fel y'i diwygiwyd gan Ddeddf yr Amgylchedd (Ansawdd Aer a Seinweddau) (Cymru) 2025. Oni nodir fel arall, barn a sylwadau Cyngor Bwrdeistref Sirol Rhondda Cynon Taf sy'n cael eu mynegi yn yr Adroddiad ar Gynnydd 2026.

Yn unol â Chynllun y Gymraeg 2026, ystyrir y ddogfen yma'n un dechnegol a fyddai o ddiddordeb i gynulleidfa fach o bobl yn unig, ac felly mae'i chyhoeddi yn y Saesneg. Fodd bynnag, bydd modd gofyn am fersiwn Gymraeg ohoni.

The 2026 Progress Report has been produced and issued by Rhondda Cynon Taff County Borough Council in fulfilment of its duties under Part IV of the Environment Act 1995, as amended by the Environment (Air Quality and Soundscapes) (Wales) Act 2025. Unless otherwise stated all opinions and views contained within the 2026 Progress Report are that of Rhondda Cynon Taff County Borough Council only.

In accordance with Rhondda Cynon Taff's Welsh Language Scheme, the 2026 Progress Report is deemed to be a technical document of limited public interest and has therefore been produced in English. A Welsh version, however, can be made available on request.

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1. Crynodeb Gweithredol: Ansawdd Aer yn Ein Hardal

1.1 Ansawdd Aer yn Rhondda Cynon Taf

Mae Cyngor Bwrdeistref Sirol Rhondda Cynon Taf [yr Awdurdod Lleol] yn cydnabod bod modd i ansawdd aer gwael effeithio ar iechyd a lles pobl a bod modd i ansawdd aer da fod yn bwysig o ran gwella hyd ac ansawdd bywyd, amwynder y gymuned leol a'r amgylchedd yn ehangach.

Yn ôl y gyfraith, mae angen i'r Awdurdod Lleol fesur ansawdd aer yn rheolaidd yn ei ardal mewn perthynas â'r Amcanion Ansawdd Aer. Wrth wneud hynny, mae'r Awdurdod Lleol wedi amlygu dau lygrydd aer perthnasol – nitrogen deuocsid [NO₂] a deunydd gronynnol [PM₁₀] – y mae angen edrych arnyn nhw'n fwy manwl. Mae Adroddiad Cynnydd Ansawdd yr Aer 2026 yn cynnwys asesiad o ddata monitro ansawdd aer gafodd eu casglu yn ystod 2025, yn ogystal ag adolygiad o ddatblygiadau wedi eu caniatáu yn ddiweddar, mannau o ddiddordeb parhaus a newydd, a pholisïau penodol sydd efallai wedi cael dylanwad ar ansawdd aer lleol.

Mae tystiolaeth yn dangos bod gan y rhan fwyaf o sir Rhondda Cynon Taf ansawdd aer sy'n cydymffurfio ac mae hynny'n debygol o barhau yn y dyfodol. Gyda'r disgwyliad bod modd i ansawdd aer barhau i wella'n raddol, ac wrth i dechnolegau trafniadaeth newydd gael eu cyflwyno'n raddol, mae potensial i'r gwelliant barhau o ran o leiaf rhai llygryddion aer yn y tymor hwy.

O edrych ar amgylchiadau lleol, gan gynnwys canlyniadau monitro, dros gyfnod estynedig, deellir mai dim ond rhai ardaloedd bach sy'n gysylltiedig â ffyrdd trefol prysur neu'r rhwydwaith cefnffyrdd rhanbarthol sy'n debygol o gael ansawdd aer sydd ddim yn cydymffurfio yn ardal Rhondda Cynon Taf. Credir bod yr ardaloedd sydd mewn perygl – ardaloedd sydd yn hanesyddol yn gysylltiedig â lefelau uchel o NO₂ – eisoes wedi cael eu cynnwys o fewn chwech [Ardal Rheoli Ansawdd Aer](#) [ARhAA] ac, yn wahanol i'r rhan fwyaf o leoliadau, mae'n bosibl fydd ansawdd aer yn yr ardaloedd yma ddim yn gwella mor gyflym ag ardaloedd eraill yn y tymor byr. Mae'r chwe ARhAA wedi'u rhestru yn Appendix D1: Current AQMA Boundary Maps, sydd i gyd yn ymwneud ag achosion o dorri Amcanion Ansawdd Aer ar gyfer NO₂.

Yn 2025 roedd modd i'r Awdurdod Lleol fonitro PM_{2.5} a PM₁₀ yng Nglyn-coch, Pontypridd. Mae dadansoddiad o'r canlyniadau'n sail i'r dylanwad sylweddol tebygol y gallai gwahanol weithrediadau yn Chwarel Craig Yr Hesg ei gael ar PM₁₀ yr arsylwyd arno'n lleol, er y gallai canlyniadau PM_{2.5} fod yn fwy annibynnol o ddylanwadau lleol. Er ei bod hi'n parhau i fod yn anodd rhagweld tuedd yn y dyfodol yng Nglyn-coch, ymddengys, ar hyn o bryd, fod y lleoliad yn parhau i gydymffurfio â'r cymedr blynnyddol o ran Amcanion Ansawdd Aer ar gyfer PM₁₀. Serch hynny, gallai digwyddiad hinsoddol parhaus neu newid andwyol i ffynonellau deunydd gronynnol lleol fygwth y ddealltwriaeth yma. Felly, ystyrir y bydd angen monitro parhaus i sicrhau bod modd ystyried yn llawn unrhyw newidiadau yn y dyfodol, a allai effeithio ar lefelau PM₁₀ yn lleol.

Er, mae tanau mawr ar dir agored a'u heffaith ar ansawdd aer lleol a lles, wedi peri pryder sylweddol i lawer o gymunedau lleol yn y gorffennol. Yn ddiweddar, wrth i dymor y tanau mawr, gwyllt ar dir agored a mynyddoedd barhau am gyfnod hirach a'r achosion yn dwysáu o ran eu difrifoldeb, mae pryderon y gymuned wedi dod hyd yn oed yn fwy rhagweladwy. Bydd y Cyngor yn parhau i weithio gyda'i bartneriaid i fynd i'r afael ag achos

tanau mawr ar diroedd agored yn ogystal â monitro eu heffeithiau posibl, gan gydnabod hefyd y gallai'r amodau sy'n cynyddu'r risg o danau mawr ddod yn fwy cyffredin o ganlyniad i newid parhaus yn yr hinsawdd.

1.2 Camau i Wella Ansawdd Aer

Yn ogystal ag adolygu dealltwriaeth gyfredol o ansawdd aer lleol, efallai bydd yr Awdurdod Lleol hefyd yn cymryd camau a fydd, gobeithio, yn gweithio tuag at wella ansawdd aer mewn Ardal Rheoli Ansawdd Aer, neu'n fwy eang ledled y Fwrdeistref Sirol. Os nad oes gweithredu, mae'n amlwg nad yw'r ansawdd aer lleol yn yr ardaloedd sy'n cael eu heffeithio fwyaf yn Rhondda Cynon Taf yn debygol o wella unrhyw bryd yn fuan. O ganlyniad i hyn, mae'r Awdurdod Lleol wedi mabwysiadu Cynlluniau Gweithredu Ansawdd Aer ar gyfer pob ARhAA, sydd i'w gweld yn Appendix E2: Current Air Quality Action Plans. Mae'r Cynlluniau Gweithredu Ansawdd Aer yma yn cefnogi nifer o gamau gweithredu lleol yn ogystal â chamau gweithredu rhanbarthol a thrwy gydol y Fwrdeistref Sirol, a hynny er mwyn parhau â gwaith yr Awdurdod Lleol tuag at sicrhau cydymffurfiaeth barhaus ym mhob ARhAA.

Mae'r Awdurdod Lleol yn parhau, pan fo'n bosib, i weithredu neu i ddylanwadu ar weithredu camau yn ei ARhAA yn ogystal â chamau eraill a all wella ansawdd aer lleol yn gyffredinol. Serch hynny, oherwydd adnoddau cyfyngedig, ni fu'n bosib gweithredu'r holl gamau gwella ansawdd aer ar unwaith. Serch hynny, mae camau gwella a gymerwyd yn ddiweddar yn cynnwys datblygu Metro De Cymru a chynyddu gwasanaethau rheilffordd i Bontypridd yn gyson; cwblhau ac agor Cynllun Deuoli'r A4119 yng Nghoed-elái; gosod pwyntiau gwefru cerbydau trydan pwrpasol ychwanegol mewn meysydd parcio cyhoeddus; rhoi cymhorthdal ar gyfer tocynnau bysiau (uchafswm pris tocyn o £1.50) o fewn Rhondda Cynon Taf yn ystod rhannau penodol o'r flwyddyn, yn ogystal â threfniadau penodol ar gyfer teithio am ddim i fyfyrwyr rhwng 16 ac 19 oed; a bwrw ymlaen â rhaglen waith fesul cam gwerth miliynau o bunnoedd i uwchraddio a gwella nifer o lwybrau teithio llesol, gan gynnwys cwblhau Llwybr Teithio Llesol Rhondda Fach (sy'n 10 cilomedr o hyd) o Dylorstown, drwy Llynrhedynog, i Faerdy.

Wrth edrych i'r dyfodol bydd yr Awdurdod Lleol yn parhau i symud ymlaen ag ystod o gamau gweithredu a mentrau. Mae'r rhain yn cynnwys dylunio ac adeiladu nifer o ffyrdd posibl arfaethedig i leddfu traffig, cynyddu amllder gwasanaethau trên i Dreherbert, datblygu Metro De Cymru, a phrosiectau i gynyddu hygyrchedd ac ymwybyddiaeth o lwybrau teithio llesol ac opsiynau trafndiaeth cynaliadwy leol. Wrth gydnabod effeithiau posibl newid yn yr hinsawdd, a'r manteision y byddai'n gallu deillio o roi dull cyfannol o ymdrin â materion amgylcheddol ar waith, mae'r Awdurdod Lleol yn parhau i ddatblygu strategaethau a rhaglenni newid hinsawdd lleol allweddol. Mae hyn wedi cynnwys datblygu Strategaeth Gwefru Cerbydau Trydan a rhaglen cynhyrchu ynni adnewyddadwy uchelgeisiol.

Bydd yr Awdurdod Lleol yn parhau i gynnal y Cynlluniau Gweithredu Ansawdd Aer fel dogfennau byw ac yn anelu at eu hadolygu nhw eto yn 2027, gan ystyried y cynnydd sydd wedi'i wneud a natur gyfnewidiol ansawdd aer lleol.

Mae'r gallu i ddod o hyd i adnoddau digonol yn hanfodol i ddatblygiad tymor hir y camau i wella ansawdd aer lleol. Mae modd i hyn fod yn heriol, ac mae'n galw am ddulliau cyfannol creadigol i ddatblygu camau gweithredu gwella ansawdd aer lleol. O ganlyniad i hyn, er bod buddion yn aml yn cael eu cyflawni ar gyfer nifer o agendâu, mae modd i'r dull yma ddod ar draws ansicrwydd a phrosesau gwneud penderfyniadau hirach wrth geisio datblygu rhai camau gweithredu.

1.3 Blaenoriaethau a Heriau Lleol

Mae'r Awdurdod Lleol yn cydnabod bod lefelau ansawdd aer sy'n cydymffurfio yn bwysig iawn wrth gyflawni ei flaenoriaethau. O ganlyniad i hyn, mae wedi ymgorffori'r gydnabyddiaeth yma'n flaenoriaeth o dan 'Natur ac Amgylchedd' yn y fersiwn diweddaraf o'i Gynllun Corfforaethol [2]. Bydd yr Awdurdod Lleol yn parhau i geisio datblygu ei Gynlluniau Gweithredu Ansawdd Aer sydd wedi'u mabwysiadu, gweithredu camau gwella ansawdd aer cyfannol cyraeddadwy, anelu at gyflawni'r gofynion monitro ac adrodd disgwylidig a pharhau i adeiladu ar berthnasoedd gwaith agos gyda phartneriaid a rhanddeiliaid amrywiol.

Mae'r Awdurdod Lleol hefyd yn cydnabod nifer o heriau er mwyn darparu ansawdd aer lleol da. Y rhai mwyaf amlwg yw:-

- Dyfalbarhad tebygol amgylchedd lle mae'r adnoddau sydd wedi'u dyrannu ar hyn o bryd o dan bwysau sylweddol, ac yn wynebu cystadleuaeth barhaus o agendâu eraill â blaenoriaeth.
- Efallai bydd rhoi Deddf yr Amgylchedd (Ansawdd Aer a Seinweddau) (Cymru) 2025 ar waith yn [3] ar waith, ac yn benodol yr adolygiad o rai Amcanion Ansawdd Aer, olygu bod angen ailystyried sut mae'r Awdurdod Lleol yn ymgymryd â'i ddyletswyddau ansawdd aer lleol ac yn darparu adnoddau i gyflawni hyn.
- Datblygu dealltwriaeth o lefelau deunydd gronynnol yn yr aer yng nghymuned Glyn-coch a'r angen posibl i gynnal trafodaethau gyda rhanddeiliaid a phartïon â diddordeb.
- Trefoli parhaus, a'r rhwystrau cenedlaethol a lleol posibl sy'n wynebu mabwysiadu datrysiadau cludiant glanach newydd yn gyflym.
- Y bygythiad a allai ddatblygu oherwydd tymor tanau mawr, gwyllt dwysach ac estynedig a'r effaith y gall hyn ei chael ar ansawdd aer lleol a lles cymunedau.

1.4 Sut i Gymryd Rhan

Mae rhagor o wybodaeth ar ansawdd aer lleol yn Rhondda Cynon Taf, gan gynnwys y canlyniadau monitro diweddaraf, ar gael ar wefan [Ansawdd Aer Cymru](#) [1].

2. Executive Summary: Air Quality in Our Area

2.1 Air Quality in Rhondda Cynon Taf

Rhondda Cynon Taff County Borough Council [the Local Authority] recognises poor air quality can affect people's health and wellbeing and that good air quality can be important in improving the length and quality of people's lives, the amenity of their local community and the wider environment.

The law requires the Local Authority to regularly check air quality in its area against Air Quality Objectives [AQO]. In doing so, the Local Authority has identified two relevant air pollutants, Nitrogen Dioxide [NO₂] and Particulate Matter [PM₁₀], that may require closer examination. The 2026 Air Quality Progress Report contains an assessment of air quality monitoring data collected during 2025, as well as a review of newly consented developments, new and ongoing areas of interest and certain policies that may have an influence upon local air quality.

It has been shown that the vast majority of Rhondda Cynon Taf experiences compliant air quality, which is likely to remain so into the future. With the expectation that air quality may continue to incrementally improve and, with the gradual adoption of new transport technologies, there is the potential for this sustained improvement to continue for at least some air pollutants in the longer-term.

From examination of local circumstances, including monitoring results, over an extended period of time, it is understood that only some small areas associated with busy urban local roads or the regional trunk road network are likely to be at risk from non-compliant air quality within Rhondda Cynon Taf. It is believed these vulnerable areas, linked to historically high levels of NO₂, have already been included within six designated [Air Quality Management Areas](#) [AQMAs] and, in contrast to most locations, the air quality in these vulnerable areas may not improve as rapidly as elsewhere over the nearer-term. The six AQMAs are listed in Appendix D1: Current AQMA Boundary Maps, all of which are in respect of breaches of AQOs for NO₂.

In 2025 the Local Authority was able to undertake the monitoring of both PM_{2.5} and PM₁₀ within Glyncoch, Pontypridd. Analysis of the results underlies the likely significant influence that various operations at Craig Yr Hesg Quarry may have on locally observed PM₁₀, albeit PM_{2.5} may observe a certain degree of independence from local influences. Although it remains difficult to predict a future trend at Glyncoch it appears that, at present the location remains compliant to the annual mean and the 24-hour daily mean AQOs for PM₁₀. Nonetheless, a sustained climatic event or an adverse change to local sources of particulate matter could threaten this understanding. Therefore, continued monitoring is deemed necessary to ensure any future changes, which have the potential to impact on the local prevalence of PM₁₀, can be fully considered.

Although in the past wildfires, and their impact on local air quality and wellbeing, have posed a significant concern to many local communities. Recently, as the wildfire season has become increasingly extended and has intensified, community concerns have become even more prescient. The Council will continue to work with its partners in tackling the cause of wildfires as well as potentially monitoring their impacts, whilst also acknowledging the

conditions that increase wildfire risk may become more prevalent as a consequence of continuing climate change.

2.2 Actions to Improve Air Quality

In addition to reviewing current understanding of local air quality the Local Authority may also take actions that hopefully work towards improving air quality within an AQMA or more broadly throughout the County Borough. It is clear that, without action, local air quality within the most vulnerable areas of Rhondda Cynon Taf is unlikely to improve as quickly as possible. As a result, the Local Authority has adopted Air Quality Action Plans [AQAPs] for each of its AQMAs, published in Appendix E2: Current Air Quality Action Plans. These AQAPs, advocate a number of locally targeted as well as County Borough wide and regional actions, so as to continue the Local Authority's work towards achieving sustained compliance within each AQMA.

The Local Authority continues, where possible, to implement or influence the implementation of actions within its AQAPs as well as other actions that may more generally improve local air quality. Although, due to limited resources, it has not been possible to immediately implement all air quality improvement actions. However, improvement actions undertaken recently include progression of the South Wales Metro and consistently increasing rail services to Pontypridd, completion and opening of the of the A4119 Coed Ely Dualling Scheme, installation of additional dedicated electrical vehicle charging points at public car parks, subsidised (£1.50 max fare) bus travel within Rhondda Cynon Taf during certain parts of the year as well as defined free post-16 to 19 education travel and progressing a multimillion pound phased works programme to upgrade and improve a number of active travel routes, including the completion of the ten kilometre Rhondda Fach Active Travel Route from Tylorstown, via Ferndale, to Maerdy.

Looking to the future, the Local Authority is continuing to progress a range of actions and initiatives. These include the design and potential implementation of several proposed relief roads, increasing the frequency of train services to Treherbert, progression of the South Wales Metro and projects to increase usability and awareness of active travel routes and local sustainable transport options. In recognising the potential effects of climate change and the 'win win' which may be realised by an holistic approach to environmental issues, the Local Authority continues to advance key local climate change strategies and programmes. This has included, progressing its Electric Vehicle Charging Strategy and an ambitious renewable energy generation programme.

The Local Authority will continue to maintain the AQAPs as living documents and will aim to review them again in 2027, to take account of progress made and the ever-changing nature of local air quality.

Fundamental to the longer-term progression of actions to improve local air quality is the ability to obtain sufficient resources. This can be challenging and invariably requires creative holistic approaches to the advancement of local air quality improvement actions. As a consequence, although multi-agenda benefits are often realised, this approach can encounter greater uncertainty and longer decision-making processes when advancing certain actions.

2.3 Local Priorities and Challenges

The Local Authority recognises that compliant air quality has significant importance in the delivery of its priorities, in doing so it has incorporated this recognition as a priority of the “Nature and Environment” theme within its updated Corporate Plan [2]. The Local Authority will continue to seek to progress its adopted AQAPs, implement achievable holistic air quality improvement actions, aspire to fulfil expected monitoring and reporting requirements and build-upon close working relationships with various partners and stake-holders.

The Local Authority also recognises a number of challenges to the delivery of good local air quality, most notably: -

- The likely persistence of an environment where currently allocated resources are significantly under pressure and will face continued competition from other priority agendas.
- The implementation of the Environment (Air Quality and Soundscapes) (Wales) Act 2025 [3], and in particular the review of certain Air Quality Objectives, could require reconsideration as to how the Local Authority undertakes and resources its local air quality duties.
- Evolving understanding of the levels of particulate matter in the air within the community of Glyncoch and the potential need to support dialogue with stakeholders and interested parties.
- Continued urbanisation and the potential national and local obstacles faced with the rapid adoption of emergent cleaner transport solutions.
- The potentially developing threat from an intensified and extended wildfire season and the impact this can have on both local air quality and community wellbeing.

2.4 How to Get Involved

Further information on local air quality within Rhondda Cynon Taf, including up-to-date monitoring results, can be obtained from the “[Air Quality In Wales](#)” website [1].

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3. Actions to Improve Air Quality

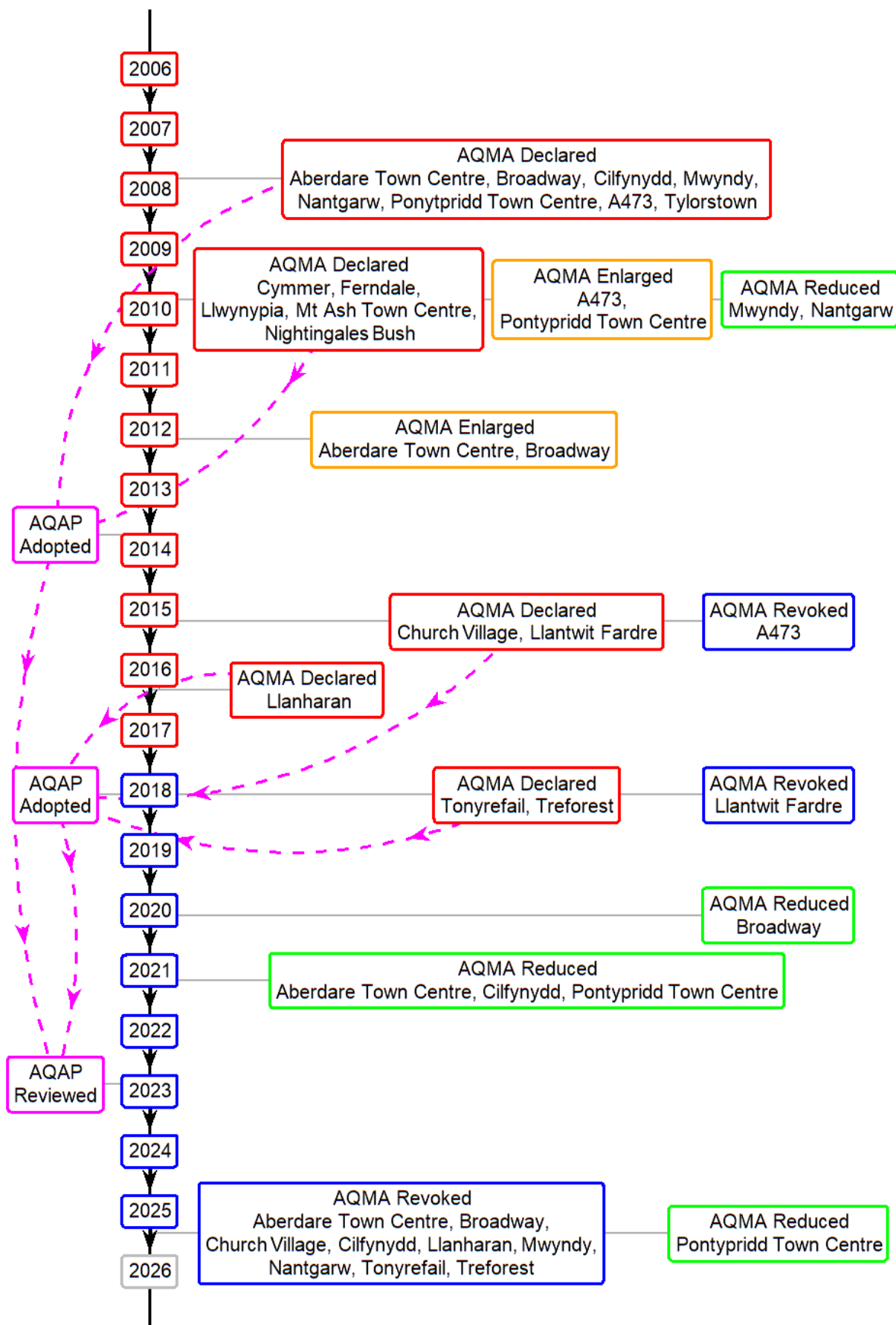
3.1 Previous Work in Relation to Air Quality

The Local Authority has periodically reviewed local air quality management within Rhondda Cynon Taf and, since 2003, has produced an annual progress report on its latest findings. These progress reports often include consideration of the current air quality monitoring results, trends and developments that may influence local air quality.

When necessary, progress reports have included the identification of relevant locations, that may not comply with statutory Air Quality Objectives [AQOs], designated as Air Quality Management Areas [AQMAs] and the assessment of cost-effective actions, adopted within Air Quality Actions Plans [AQAPs], that may be necessary to advance as quickly as reasonably possible local air quality improvement. To provide an illustration of Air Quality Management Areas in Rhondda Cynon Taf,

Figure 3-1 below provides a timeline of recent important events, with declared AQMAs highlighted in red boxes, expanded AQMAs in orange boxes, reduced AQMAs in green boxes and revoked AQMAs in blue boxes. In addition, the years in red indicate those occasions when the locally observed levels of NO₂ were above the historic average and those in blue when it was below.

Figure 3-1: Timeline of Air Quality Management Areas in Rhondda Cynon Taf



3.2 Air Quality Management Areas

AQMAs are declared when air quality is close to or above a threshold of pollution known as the Air Quality Objective [AQO], see Appendix B10.2. After declaring an AQMA the Local Authority should prepare an AQAP within eighteen months, setting out measures it intends to put in place to improve air quality to at least the AQO, if not better. In this way, AQMAs are seen as the focal points to channel resources into the most pressing areas of air pollution as a priority.

Within Rhondda Cynon Taf there are currently six AQMAs. Although they may vary in size and characteristics, each AQMA has been designated with respect to a breach of a relevant AQO for NO₂. Each AQMA is subject to a corresponding AQAP, with each extant AQAP reproduced in Appendix E2: Current Air Quality Action Plans.

The following tables provide information with respect of each extant AQMA within Rhondda Cynon Taf. Further information related to declared or revoked AQMAs, including maps of AQMA boundaries, are available online at the relevant Defra webpage [4]; with maps of extant AQMAs being reproduced in Appendix D1: Current AQMA Boundary Maps and information on their NO₂ trends in Appendix D2: AQMA Trends.

Table 3-1 below contains descriptive information on each AQMA, including if the community associated with the AQMA has also been identified by the 'Health and Air Pollution Risk Assessment Area Prioritisation' [HAP-RAP] tool [5]. The HAP-RAP tool has been designed by Public Health Wales to identify communities where improvement actions may have the most overall benefit to public health. Having regard to the potential disproportionate impacts of air quality upon deprived communities and the burden reduction approach. In addition, Table 3-1 also indicates if the AQMA lies within a Noise Action Plan Priority Area [NAPPA] identified by Welsh Government [6]. NAPPAs are locations, identified via noise mapping undertaken by Welsh Government, which may experience adverse levels of environmental noise. There are often close relationships between the underlying causes of non-compliant air quality and adverse soundscapes, as a result the presence of NAPPAs may be relevant to local air quality management considerations.

Table 3-1: General Information on current AQMAs within Rhondda Cynon Taf

RCT Area	AQMA	Community	Relevant AQO(s) for NO ₂	Description ⁽¹⁾	No. of Properties ⁽²⁾	HAP-RAP Priority ⁽³⁾	NAPPA ⁽⁴⁾	Five-Year NO ₂ Trend (%)
Rhondda	Cymmer	Trebanog	1-hour & annual mean	All properties from High St to Trebanog Rd	278	✓	✓	-4.8
	Ferndale	Ferndale	annual mean	Certain properties from The Strand via High St to Dyffryn St	143	✓	✓	-2.9
	Tylorstown	Tylorstown	annual mean	Certain properties at East Rd	68	✓	✓	-1.5
Cynon	Mountain Ash Town Centre	Mountain Ash	annual mean	Certain properties from Oxford St to Ffrwyd Cres and Seymour St	63	✓	+	-5.9
Taf	Nightingales Bush	Pontypridd	annual mean	All properties at Nightingales Bush to Pentrebach Rd	10	×	✓	-6.1
	Pontypridd Town Centre	Pontypridd	annual mean	Certain properties along Gelliwastad Rd and Morgan St	88	×	+	-2.3

Table Notes

- (1) AQMA boundary maps and corresponding AQAPs within Rhondda Cynon Taf CBC can be viewed on the relevant Defra webpage [4], with maps of extant AQMAs also reproduced in Appendix D1: Current AQMA Boundary Maps.
- (2) The No. of Properties is an estimate utilising relevant GIS information at the time of declaration or amendment, this number may not reflect the nature of the property, its level of occupancy or changes as a consequence of subsequent development.

- (3) Health and Air Pollution Risk Assessment/Area Prioritisation [HAP-RAP] tool [5] outcome for each community associated with the AQMA. The HAP-RAP tool has been designed (see Section 6.6) to identify communities where improvement actions may have the most overall benefit to public health, with regards to the potential disproportionate impacts of air quality and the burden reduction approach.
- (4) ✓ indicates AQMA lies within a Noise Action Plan Priority Area (road), + indicates Proximity Area (road) [NAPPA] identified by Welsh Government.

Each AQMA is subject to a corresponding AQAP, with each extant AQAP reproduced in Appendix E2: Current Air Quality Action Plans.

Table 3-2 below, contains information on the importance of certain characteristics that are relevant to each AQMA and that may have a cause in or exacerbate the need for the AQMA. These characteristics can be relevant when considering actions that may be cost-effective in achieving future compliance to the relevant AQOs

Table 3-2: Information on the Characteristics of each AQMA

Area	AQMA	Traffic Volume	Buses	HGVs	Road Incline	Network Congestion	Road Narrowness	Controlled Traffic	Pedestrian Crossing	Parked Vehicles	Loading Vehicles	In-road Bus Stop	Traffic Calming	Street Canyon	Steep Sided Valley	Dwellings Near Road
Rhondda	Cymmer	**	**		***		***	***	*	***	**			***	*	***
	Ferndale	**	**				**		*	***	***			***	**	**
	Tylorstown	**	**		*		***		*	***		**		***	**	**
Cynon	Mountain Ash	***	*	*	*			***	*					**	*	***
Taf	Nightingales Bush	***		*		***									*	
	Pontypridd	**	**			*		***	*						*	

Table Notes

* = slight importance, ** = moderate importance, *** = substantial importance

3.3 Implementation of Actions to Improve Air Quality

The Local Authority, its partners and other organisations have taken forward a number of actions in pursuit of improving local air quality. Notable actions and other measures, that may look to improve local air quality within the current AQMA's or more generally in Rhondda Cynon Taf, that have been recently significantly progressed or completed are:

- The completion and opening of the of the A4119 Coed Ely Dualling Scheme.
- Progression of railway infrastructure, to provide future support in the operation of the South Wales Metro.
- The continued installation of public accessible electric vehicle charging infrastructure throughout Rhondda Cynon Taf, further information available on the '[Electric Vehicle Charging Points – update on installations](#)' RCTCBC webpage
- Introduction of 'tap and go' ticket payment system along the South Wales's Core Valley Lines Railway
- Continuation of the 'Rhondda Fach Connector Ticket' integrated bus and train tickets (one ticket useable across multiple journey providers and multi-leg journeys) for journeys originating or terminating in the Rhondda Fach
- Consistently increasing rail services to up to twelve trains per hour, daytime Monday to Saturday, between Pontypridd to Cardiff and introducing a new direct Pontypridd to Cardiff Bay service along the South Wales's Core Valley Lines Railway.
- Continuing subsidised (£1.50 max fare) within County Borough bus travel during certain parts of the year as well as defined free post-16 to 19 education bus travel.
- In regards to the Cymmer, Ferndale and Tylorstown AQMAs, completing initial phases of the Porth Transport Hub, supporting connected public transport within the Rhondda Fach and Fawr.
- Installing partial barriers using green infrastructure (hedging and trees) at Mountain Ash Comprehensive School to attempt to reduce the influence of traffic related emissions, at the school, from the nearby A4059.
- In regards to Mountain Ash Town Centre and Pontypridd Town Centre AQMAs, progression of active travel network improvement schemes.
- In regards to the Ferndale and Tylorstown AQMAs, completion of active travel network improvement schemes.

Due to a challenging resource environment, there may be some uncertainty as to the expected completion timeframes of various future improvement actions, however, the Local Authority considers the following measures may be potentially progressed or completed over the course of the next reporting year:

- In regards to the Mt Ash Town Centre, Nightingales Bush and Pontypridd Town Centre AQMAs, continued progress in delivery of the South Wales Metro.

- The progression of approval to deliver the Llanharan Sustainable Transport Corridor, including an associated increase in local bus frequency.
- The further delivery of public accessible dedicated electrical vehicle charging points at selected locations.
- Improvement of railway services within the Rhondda Fawr by introducing up to four trains per hour to Treherbert.
- Continued consideration of a relocated Treforest Industrial Estate train station, on the South Wales Valleys Railway, at a location that may increase service to the local area.
- Progression of Transport for Wales franchising of local bus services and the potential for regional integrated cross-mode ticketing.
- Consideration of additional green infrastructure related barriers at various schools.

Details of all actions planned, in progress or completed are set out in Table 3-3 below, with the actions listed in order of most likely impact. The three measures highlighted in yellow, that are currently being progressed, are considered to have the greatest future impact on local air quality.

Table 3-3: Progress on Measures to Improve Air Quality

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
1	Electric Vehicle Charging To advance local electric charging infrastructure so as to reduce the practical barriers to the adoption of LEVs	Rhondda Cynon Taf CBC	Promoting Low Emission Transport	Alternative Refuelling Infrastructure to Promote Electric Vehicle Recharging	Rhondda Cynon Taf CBC	Ongoing	Ongoing	TBC	Delivery of EV strategy. Focusing efforts on the installation of Electric Vehicle Charging Points at a number of public parking locations, close to residential areas
2	A473/B4595 Corridor Church Village Bypass To relieve traffic from existing local roads	B4595 (inc. Church Village AQMA)	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (+ Welsh Government)	2008	2010	20% to 36% reduction in NO ₂	Construction and operation of new 7km A473, providing relief to B4595. Changes to traffic flow from relief road fully manifested

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
3	A4233 Porth-Lower Rhondda Fach Relief Road To relieve traffic from existing local roads	Porth & Lower Rhondda Fach	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (+ Welsh Government)	2005	2007	NA	Construction and operation of new 8km A4233, providing relief to local roads. Changes to traffic flow from relief road fully manifested
4	South Wales Metro The construction and operation of an integrated metro to relieve traffic congestion from the existing local and regional roads	Rhondda Cynon Taf	Transport Planning and Infrastructure	Other	Transport for Wales (+ Welsh Government)	Ongoing	Ongoing	TBC	Electrification of core Valley Lines completed and opening of Taffs Well Rail Depot. Introduction of 'Tram Trains' progressing.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
5	A470 Speed Reduction Preservation of existing green barriers and reduction in speed limit to 50mph along designated length of the A470	Taf Valley	Traffic Management	Reduction of Speed Limits	Welsh Government (Welsh Government)	2018 (further expansion under review)	2018	Overall ~2.8µgm ⁻³ NO ₂ reduction in nearby areas	Permanent speed reduction in combination with fixed enforcement and in-site information dissemination. Possible further expansion of intervention to the south.
6	Llanharan Sustainable Transport Corridor To relieve traffic from the existing local roads	Llanharan	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (+ Welsh Government)	Ongoing	TBC	TBC	Preferred route (Route No.2) determined, planning and design phase progressing [7].

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
7	Fee-Charging Public Bus Support To support mass public transit use	Rhondda Cynon Taf	Transport Planning and Infrastructure	Other	Rhondda Cynon Taf CBC	2020	Ongoing	Initial 7% increase in journey uptake for parts of year promoted	Subsidised (max £1.50 fare) travel during certain parts of the year and defined free post 16 school transport to encourage sustained uptake.
8	RCT Staff Hybrid Homeworking Initiative ICT systems to enable wide scale hybrid homeworking	Rhondda Cynon Taf	Promoting Travel Alternatives	Encourage / Facilitate Homeworking	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2019	2020	Significant uptake in home working and reduction in associated commuting	Mass role-out of ICT systems and support to enable as wide as possible uptake by RCT staff, minimising the need for commuting.
9	Hackney Carriage and Private Hire Vehicle Licensing Policy Regional vehicle emission standards	Rhondda Cynon Taf	Promoting Low Emission Transport	Taxi Licensing Incentives and Conditions	Rhondda Cynon Taf CBC (Cardiff Capitol Region)	Ongoing	2028	TBC	New vehicle license applications or changes to existing vehicle licenses must satisfy Euro 6 minimum thresholds for air quality. Goal to achieve an LEV taxi fleet by 2028

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
10	Local Authority Vehicle Procurement To consider Local Authority vehicle emission standards	Rhondda Cynon Taf	Promoting Low Emission Transport	Public Vehicle Procurement	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	Ongoing	TBC	TBC	Rollout of LEV (Light Electric Vehicle) and ZEVs progressing with approximately 15% of fleet currently LEV. Expectation of alignment to WG policy of mostly ZEV fleet by 2028 or earlier
11	Urban 20mph Speed Limit Introduction of WG 30mph to 20mph general urban speed limit	Rhondda Cynon Taf	Traffic Management	20mph Zones	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2020	2023	No material impact to local levels of NO ₂ observed at present	The national policy has largely been implemented, review being completed into the possible return of some specific roads to 30 mph.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
12	Pontypridd Town Centre Junction (Morgan St & Berw Rd) Improvement Increasing the junction capacity and maximising efficiency	Pontypridd	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	-	2014	-	Works undertaken, with resultant re-programming of traffic light controlled junction to accommodate greater vehicle capacity and junction efficiency Reduction in congestion from traffic queuing within and near Pontypridd Town Centre AQMA
13	Aberdare Town Centre Junction (Cardiff Rd & Cross St) Improvement Phase 1 & 2 modification of existing traffic light controlled junction within the AQMA	Aberdare	Traffic Management	Congestion Management	Rhondda Cynon Taf CBC (+ Welsh Government)	2013 & 2015	2014 & 2016	Reduction at Cardiff St (North) of ~1.6% NO ₂ ; increase at Cardiff St (South) of ~0.2% NO ₂	Reprogramming to favour traffic flow within the Aberdare AQMA above traffic queuing to enter or cross the AQMA and to enable wait detection and pedestrian use to improve traffic light sequence efficiency.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
14	Broadway Junction (A4058) Improvement Increasing the number of carriageways turning right from Broadway onto the A4058	Broadway	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2016	2017	-	Works undertaken, with resultant re-programming of traffic light controlled junction to accommodate the greater vehicle capacity. Significant reduction in congestion from traffic queuing within Broadway AQMA
15	Mt Ash Town Centre Junctions (New Rd, Oxford St, Bridge St Complex) Improvement Modification of existing traffic light controlled junction within the AQMA	Mt Ash	Traffic Management	Congestion Management	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2013	2014	Insignificant change at New Rd and Oxford St	Reprogramming of traffic light controlled junctions to favour traffic flow within the Mt Ash AQMA above traffic queuing to enter or cross the AQMA.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
16	Mountain Ash Cross Valley Link (south) To relieve traffic from the existing local roads	Mt Ash	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (+ Welsh Government)	2018 - 2020	2020	Est. 10.4% reduction in NO ₂ south of AQMA	Improvement of existing A4059 Jct and southern bridge completed.
17	Abercynon and Abercynon Park & Ride to support existing public mass transit relieve traffic congestion from the existing local road infrastructure	Taf Valley	Alternatives to Private Vehicle Use	Rail Based Park & Ride	Rhondda Cynon Taf CBC (+ Welsh Government)	2018	2019	-	Construction of additional 310 vehicle parking spaces associated with core valley-lines railway station. Expectation of minor reduction to NO ₂ within Taf Valley
18	Cynon Valley Gateway To relieve traffic from the existing local roads	Aberdare	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	Ongoing	TBC	TBC	Preliminary investigation of feasibility and potential options supported by undertaking WelTag Stage 1 assessment.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
19	Highway Improvement Ely Valley Road Dualing to relieve traffic congestion from the existing local road infrastructure	Tonyrefail	Traffic Management	Strategic Highway Improvements	Rhondda Cynon Taf CBC (+ Welsh Government)	2019 - 2025	2025	-	Construction works completed. Expectation of minor effect on NO ₂ within Tonyrefail
20	Improved Green Infrastructure Barriers at Mt Ash Secondary School Use of vegetation to reduce influence of road traffic emissions at relevant population	Mt Ash	Other	Other	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2025	2026	TBC	Tree and shrub planting between A4059 and parts of school to form a partial barrier that should establish in time.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
21	Travel Information Leaflets for Ferndale, Pontypridd and Porth Public and active travel advice leaflets relevant to the area.	Rhondda Cynon Taf	Public Information	Via Leaflets	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2015	2018	Leaflet uptake by partners and service user gateways strong with positive feedback	Hard and electronic travel and active travel information leaflets reproduced and distributed to service user gateways and other relevant stakeholders [8].
22	Support of National 'Clean Air Day' 2020	Rhondda Cynon Taf	Public Information	Other	Rhondda Cynon Taf CBC (Rhondda Cynon Taf CBC)	2020	Ongoing	Limited engagement	Publicity statement issued by Welsh Government and information supporting website.

No.	Measure & Focus	Area of Potential Effect	Measure		Lead Authority (Primary Funding Source(s))	Planning & Implementation Phase	Completion	Annual Emission Reduction in the AQMAs & Indicators	Progress & Comment
			Category	Classification					
23	Tax Incentivised Bicycle Purchase Scheme Government approved salary sacrifice scheme to offer bicycles to RCTCBC employees via "Cycle 2 Work" scheme	RCT	Promoting Travel Alternatives	Promotion of cycling	Rhondda Cynon Taf CBC (Indirect)	2015	Ongoing	-	Cycle 2 Work scheme active with employee uptake facilitated via payroll. Advertisement of the scheme via pay slips and RCTCBC intranet. Scheme delivered as part of ongoing staff welfare package

3.4 Review of Air Quality Action Plans

AQAPs are 'living' plans that are required to be regularly reviewed and updated whenever deemed necessary, normally at least once every five years, to ensure they remain relevant to ever changing local, regional and national circumstances. As part of this schedule the Local Authority formally reviewed and re-adopted revised AQAPs for all extant AQMAs in 2022; these current AQAPs are reproduced within Appendix E2: Current Air Quality Action Plans. The next scheduled review of all the Local Authority's AQAPs is expected in 2027.

3.5 Prioritisation of Air Quality Action Plans

It is recognised in the current financial climate for Local Government, it may not be possible to implement all actions within all the proposed revised AQAPs immediately. Therefore, it is believed appropriate to target resources where they achieve the maximum benefit. In this regard, it is possible to prioritise the current AQAPs into a hierarchy which allows focused direction from the Local Authority and its partners. In acknowledgment of the Local Authority's use of the HAP-RAP tool, Table 3-4 provides the prioritisation of the revised AQAPs. This will ensure that the location with the greatest need will receive the highest priority.

Table 3-4: AQAP Prioritisation Order

AQAP	Priority
Cymmer	1
Ferndale	
Tylorstown	
Mt Ash Town Centre	
Pontypridd Town Centre	2
Nightingales Bush	3

3.6 Monitoring of Air Quality Action Plans

The current AQAPs contain monitoring indicators to demonstrate any progress in their delivery. Where appropriate, these indicators can involve the direct or proxy measurement of an expected effect. Table 3-5 below, provides a description of the monitoring associated with each current AQAP action and an update on progress.

Table 3-5: AQAP Action Monitoring

AQAP Action		Monitoring	Update
Ref	Description		2025
AT1	Active travel routes	The total of length of new or improved relevant Active Travel Routes	New: 7.57 km Improved: 8.53 km
		The amount of investment in new or improved Active Travel Routes	~ £14,519,000 (aggregate of multi year project spending)
AT3	Behavioural influences	Delivery of schemes to increase travel information	Updated RCT active travel webpages with latest updates on improvement works
		Favourable perspective of current public transport operators	NA
		Delivery of schemes to increase modal shift	Continuation of reduced fare (certain periods within 2025) public bus journeys. Continuation of free bus journeys undertaken for defined post 16 to 19 education.
		Opportunities undertaken to encourage active travel route usage	Delivered National Standards cycle training to 540 pupils. Delivered Kerbcraft / Child Pedestrian Training to 605 pupils. Initiatives to promote RCT as a tourist destination for walking and cycling. Supporting Tour de France 2027
LP1	Dedicated SPG	Production of an SPG to guide applicants about relevant air quality considerations	Current review of LDP progressing
MT1	Light-rail (Metro) system	Achievement of phased development scheme in accordance with published schedule	Phase 1 completed with Phase 2 being progressed
MT2	Improvement of public bus frequency	No. of additional or enhanced relevant bus routes	Nil
MT4.NB	Park and Ride Scheme	No. of additional park and ride spaces in the Cynon, Merthyr and Rhondda areas, based on a 2022 baseline	Creating additional 43 car parking spaces at Treorchy Station Creating additional 150 car parking spaces at Porth Transport Hub

OP1.Cy	Green Infrastructure	Total length of green barrier at Cymmer	Nil
OP1.NB	Green Infrastructure	Total length green barrier at Nightingales Bush	Nil
OP2	Green Synchronism	Delivery of green infrastructure and biodiversity policies	Urban tree planting as green barriers at Mt Ash Comprehensive School
RF4	Alternative Vehicle Fuel Provision	Delivery of the RCTCBC EV strategy in accordance with published schedule	Strategy being progressed
RF6	LA fleet improvement	Delivery of the RCTCBC EV strategy in accordance with published schedule	Strategy being progressed
RF7	Contracted fleet improvement	Delivery of the RCTCBC EV strategy in accordance with published schedule	Strategy being progressed
RF8	Public transport fleet improvement	Delivery of the RCTCBC EV strategy in accordance with published schedule	Strategy being progressed
RI7.Cy	Local off-street parking	No. of additional local off-street parking spaces provided in Cymmer	Nil
RM2.Cy	Traffic management: increase traffic flow	% relevant bias adjustment made	NA
		% change in average speed within Cymmer AQMA	NA
RM2.Po	Traffic management: increase traffic flow	% relevant bias adjustment made	NA
		% change in average speed within Pontypridd AQMA	NA
RM5	Increased parking enforcement	No. of additional hours spent patrolling relevant areas	Nil

4. Air Quality Monitoring Data and Comparisons

4.1 Summary of Monitoring Undertaken in 2025

This section sets out the automatic and non-automatic monitoring of air quality undertaken by the Local Authority in respect of its local air quality management duties. It provides details of monitoring locations, both those that were actively monitored in 2025 and other locations where monitoring has recently commenced but ratified and validated results are not available yet.

In accordance with best practice the Local Authority annually reviews, normally in December, the scope and extent of the Local Authority's local air quality monitoring network. Where changes have been made to the local air quality monitoring network, the reasoning is also provided in this subsection.

4.1.1 Automatic Monitoring Sites

The Local Authority undertook automatic monitoring at four sites during 2025, with three automatic monitoring locations examining NO₂ and one automatic monitoring location examining PM_{2.5} and PM₁₀. Table 4-1 presents the details of the sites with further information available via the [Air Quality in Wales](#) website [1].

It is understood that, as part of its ongoing investigation and assessment of the A470 as it passes through part of Rhondda Cynon Taf, an NO₂ automatic monitoring site is being operated on behalf of Welsh Government. The monitoring site has been positioned along the verge of the A470 as it passes through Rhydyfelin. Collected results have now become available on the [Air Quality in Wales](#) website, however, as the site does not, due to the absence of an immediate relevant population, reflect the purpose of local air quality management its results are not considered within this Report.

After routine annual review, no new automatic monitoring sites were commenced or existing automatic monitoring sites discontinued in 2025 by the Local Authority.

A map showing the location of the monitoring sites is provided in Figure 4-1, with higher resolution area maps of extant automatic monitoring sites in Appendix C2: Monitoring Location Maps. Further details on how the monitors are calibrated and how the data has been adjusted, validated and ratified are included in Appendix C1: Air Quality Monitoring Data QA/QC.

4.1.2 Non-Automatic Monitoring Sites

Rhondda Cynon Taf CBC undertook non-automatic (passive) monitoring of NO₂ at fifty-four sites (utilising fifty-six NO₂ passive diffusion tubes) during 2025.

After routine annual review, four non-automatic monitoring sites were discontinued at the beginning of 2026, having gathered monitoring data throughout 2025. These were Site No. 66 (Broadway), Site No. 69 (Aberdare), Site No. 122 (Tonyrefail) and Site No. 129 (Church Village). All these sites were discontinued on observing a sustained history of compliance with the current annual mean AQO for NO₂, there being nearby non-automatic monitoring sites, providing localised understanding, that are remaining in use and an expectation that local circumstances are unlikely to significantly change in the near-term.

In addition four new non-automatic monitoring sites were commenced at the beginning of 2026.

- Site No. 142 (Pontypridd) is in proximity to the northbound carriageway of the A470, a heavily used dual carriageway, with the aim to improve understanding of conditions within communities to the west of the A470 north of its Pontypridd Junction and at the interface between 50 to 70 mph speed limit.
- Site No. 143 (Groesfaen) is adjacent to the single carriageway A4119, which may experience future traffic growth as urbanising developments within the neighbouring local authority of Cardiff City and County Council, progress.
- Site No. 144 (Treorchy) is adjacent to the single carriageway A4061, with the aim to update understanding and support local community interest.
- Site No. 145 (Cwmbach) is in close proximity to the single carriageway A4059, with the aim to expand understanding of local air quality in this area of the Cynon valley.

Table 4-2 presents the details of these sites, with higher resolution area maps of extant non-automatic monitoring sites in Appendix C2: Monitoring Location Maps. Further details on how the NO₂ passive diffusion tubes are bias adjusted, annualisation and distance corrected, are included in Appendix C1: Air Quality Monitoring Data QA/QC.

Table 4-1: Details of Automatic Monitoring Sites

Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Pollutants Monitored	Monitoring Technique	Inlet Height (m)	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y						
70	Broadway	2006	Roadside	Broadway	307839	189619	Nitrogen Dioxide	Chemi	2.5	-2.1	3.1	5.2
120	Pontypridd	2011	Roadside	Pontypridd	307286	190433	Nitrogen Dioxide	Chemi	1.5	-5.9	2.1	8
130	Upper Garth Avenue	2023 ¹	Industrial	N/A	307861	192046	Particulate Matter PM ₁₀ & PM _{2.5}	Optical	3.5	NA	NA	NA
131	Mt Ash	2014	Roadside	Mt Ash	304772	199307	Nitrogen Dioxide	Chemi	1.5	-0.5	0.5	1

Table Notes:

- (1) Where the difference is <1m, indicates that the sited monitor represents exposure and as such no subsequent distance calculation is required.

¹ Previous Upper Garth Avenues TEOM FDMS monitoring undertaken at same location from 2014

Figure 4-1: Map of Automatic Monitoring Sites

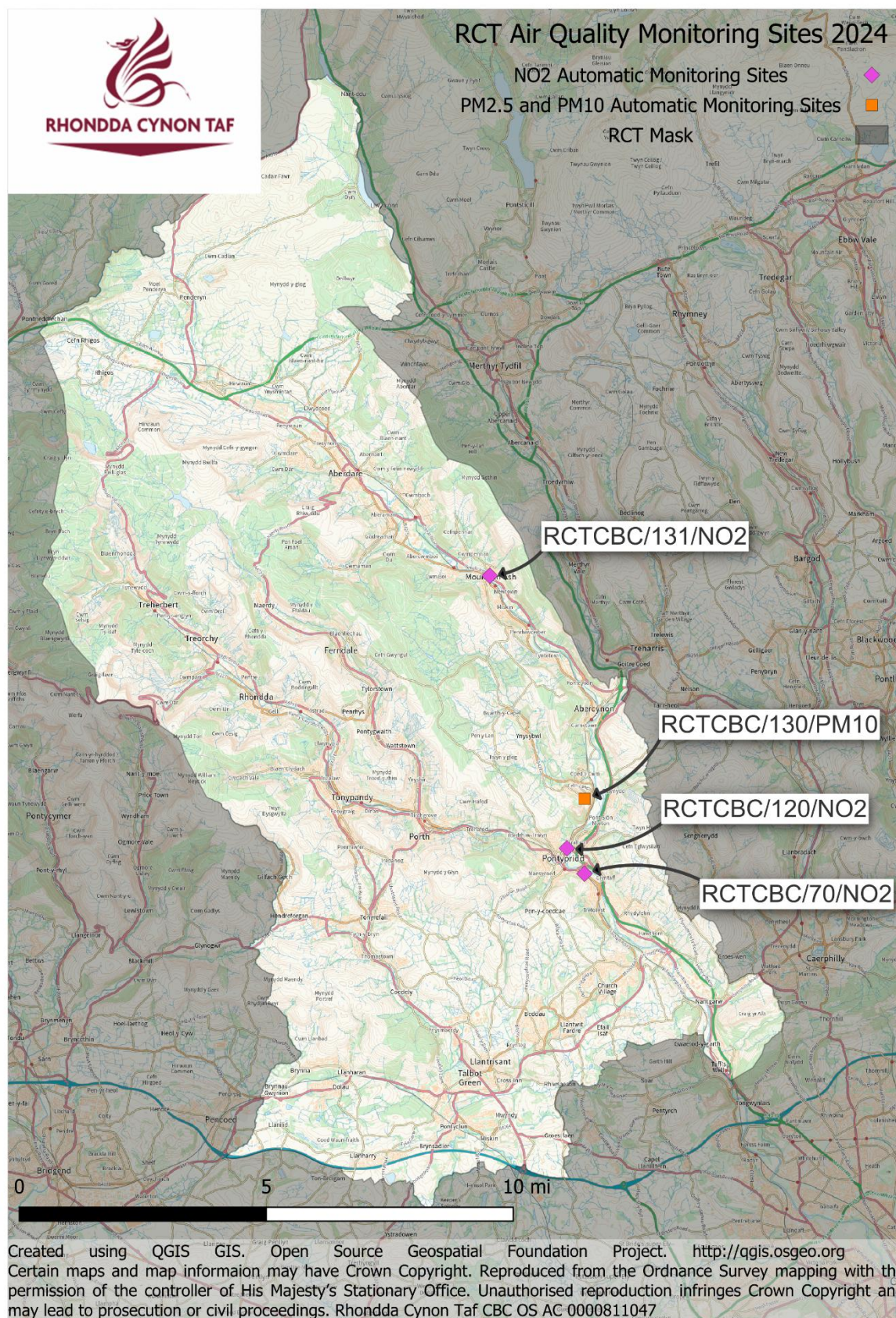


Table 4-2: Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Site Height (m)	Co-located	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y					
4	Lanelay Terrace, Maesycloed	2001	Urban Background	N/A	306587	189833	3.5	No	<0.1	2.3	2.3
8	Parc y Nant, Nantgarw	2001	Roadside	N/A	312629	185612	3.5	No	0.8	7.4	6.6
21	Woodland Park, Penderyn	2001	Urban Background	N/A	294867	207733	3.5	No	10.5	11.8	1.3
37	Lakeside Court, A4119	2003	Roadside	N/A	305442	181579	3.5	No	1.9	4.1	2.2
41	East Rd, Tylorstown	2003	Roadside	Tylorstown	300953	195129	3.5	No	1.2	1.8	0.6
44	Coronation Terrace, Pontypridd	2003	Roadside	N/A	308205	191053	3.5	No	-5.4	3.8	9.2
47	Broadway Co-Sampling	2004	Roadside	N/A	307839	189619	3.5	Yes	-2.1	3.1	5.2
48	Broadway Co-Sampling	2004	Roadside	N/A	307839	189619	3.5	Yes	-2.1	3.1	5.2
50	Broadway Co-Sampling	2004	Roadside	N/A	307839	189619	3.5	Yes	-2.1	3.1	5.2
51	Broadway, Treforest	2005	Roadside	N/A	307762	189680	3.5	No	5	5.5	0.5
52	Oxford St, Mountain Ash	2005	Roadside	Mt Ash	304721	199179	3.5	No	<0.1	1.6	1.6
53	Cardiff St, Aberdare	2005	Roadside	N/A	300359	202639	3.5	No	1.1	1.8	0.7
55	Cilfynydd Rd, Cilfynydd	2005	Roadside	N/A	308457	191595	3.5	No	1.8	4	2.2

Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Site Height (m)	Co-located	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y					
56	Broadway, Treforest	2005	Roadside	N/A	308236	189344	3.5	No	1.2	2	0.8
66	Broadway, Treforest	2006	Roadside	N/A	307990	189538	3.5	No	1.8	2.5	0.7
68	Canon Street, Aberdare	2006	Roadside	N/A	300159	202644	3.5	No	<0.1	2.2	2.2
69	Cardiff St, Aberdare.	2006	Roadside	N/A	300485	202537	3.5	No	0.4	2.9	2.5
76	Heol-y-Gors, Nantgarw	2006	Roadside	N/A	312620	185619	3.5	No	<0.1	2.4	2.4
79	High St, Pontypridd	2007	Roadside	Pontypridd	307201	189887	3.5	No	<0.1	3.7	3.7
80	Morgan St, Pontypridd	2007	Roadside	Pontypridd	307345	190531	3.5	No	2.7	3.2	0.5
81	Sardis Bridge Pontypridd	2007	Roadside	Pontypridd	307123	190022	3.5	No	<0.1	2	2
82	Main Rd, Llantwit Fardre	2007	Roadside	N/A	307281	184886	3.5	No	1.6	3.2	1.6
83	Ceridwen Terrace	2007	Roadside	Pontypridd	307481	190369	3.5	No	<0.1	2.4	2.4
84	Gelliwastad Rd	2007	Roadside	Pontypridd	307264	190403	3.5	No	<0.1	1.5	1.5
85	Efail Isaf Junction	2007	Roadside	N/A	308579	185863	3.5	No	0.7	2.4	1.7
88	Victoria Square, Aberdare	2007	Roadside	N/A	300320	202664	3.5	No	<0.1	2.2	2.2
90	Cymmer Rd, Dinas	2007	Roadside	N/A	302169	191535	3.5	No	0.3	1.5	1.2
91	High St, Cymmer	2007	Roadside	Cymmer	302494	190868	3.5	No	<0.1	1.5	1.5
93	High Street, Ferndale	2007	Roadside	Ferndale	299931	196843	3.5	No	<0.1	2.1	2.1

Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Site Height (m)	Co-located	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y					
96	Oxford St, Mountain Ash	2008	Roadside	Mt Ash	304757	199091	3.5	No	<0.1	1.5	1.5
97	New Rd, Mountain Ash	2008	Roadside	Mt Ash	304751	199336	3.5	No	0.4	2.9	2.5
101	Long Row, Blaenllechau	2008	Rural Background	N/A	299674	197673	3.5	No	NA	N/A	N/A
103	Ty Mawr Farm, Efail Isaf	2008	Rural Background	N/A	308817	183891	3.5	No	NA	N/A	N/A
105	Greenfield Ave, Glyncoch	2008	Rural Background	N/A	307038	192263	3.5	No	NA	N/A	N/A
106	Partridge Rd, Llwynypia	2008	Roadside	N/A	299851	193991	3.5	No	<0.1	1.7	1.7
107	High Street, Ferndale	2008	Roadside	Ferndale	299880	196937	3.5	No	<0.1	1.8	1.8
108	Nightingales Bush, Pontypridd	2008	Roadside	Nightingales Bush	308101	189853	3.5	No	6.3	9.6	3.3
110	Cowbridge Rd	2009	Roadside	N/A	303533	181287	3.5	No	0.4	2	1.6
111	Bridgend Rd, Llanharan	2009	Roadside	N/A	300259	183082	3.5	No	<0.1	0.5	0.5
113	Mill St, Tonyrefail	2009	Roadside	N/A	300976	188165	3.5	No	0.4	1	0.6
114	Pentrebach Rd	2009	Roadside	Nightingales Bush	308146	189882	3.5	No	3.4	5.1	1.7
117	High St, Cymmer	2009	Roadside	Cymmer	302452	190778	3.5	No	0.9	1.5	0.6
118	High St, Cymmer	2009	Roadside	Cymmer	302312	190531	3.5	No	1.7	3	1.3
122	Mill St, Tonyrefail	2011	Roadside	N/A	300966	188131	3.5	No	0.6	2.6	2

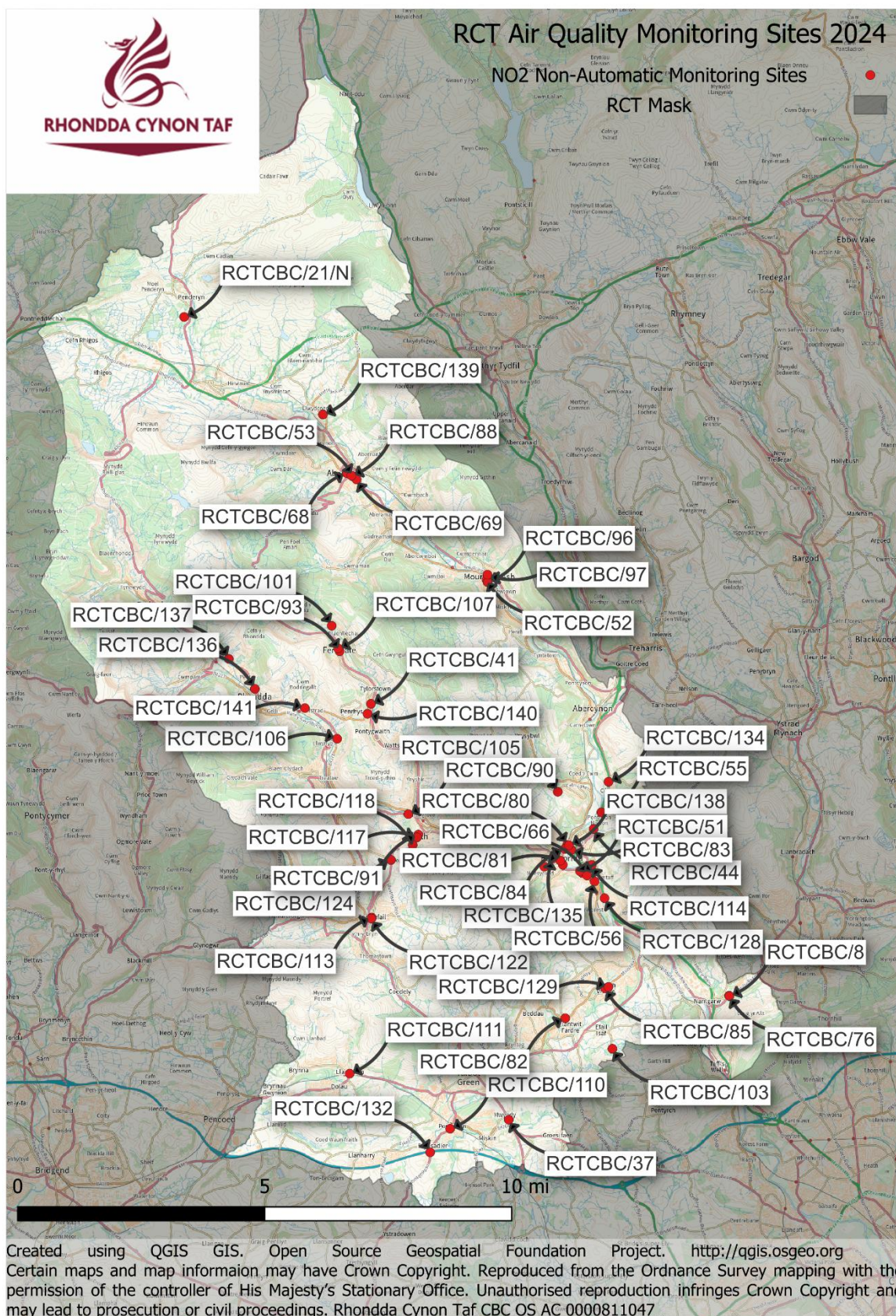
Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Site Height (m)	Co-located	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y					
124	Trebanog Rd, Trebanog	2011	Roadside	Cymmer	301606	190042	3.5	No	<0.1	1.6	1.6
128	Cardiff Rd, Treforest	2013	Roadside	N/A	308561	188796	3.5	No	0.4	1.9	1.5
129	Main Rd, Church Village	2014	Roadside	N/A	308687	185905	3.5	No	1.1	3.2	2.1
132	Cowbridge Rd, Talygarn	2016	Roadside	N/A	302880	180517	3.5	No	0.7	23.2	22.5
134	Pontypridd High School, Pontypridd	2019	Other	N/A	308690	192589	3.5	No	13.9	33.7	19.8
135	Ysgol Evan James, Pontypridd	2020	Roadside	N/A	306875	190098	3.5	No	4.4	6.5	2.1
136	Ystrad Rd, Pentre	2020	Roadside	N/A	297171	195616	3.5	No	<0.1	1.8	1.8
137	High St, Treorchy	2020	Roadside	N/A	296321	196594	3.5	No	1.3	1.9	0.6
138	Berw Rd, Pontypridd	2021	Roadside	Pontypridd	307401	190525	3.5	No	<0.1	2.1	2.1
139	Llwydcoed Rd, Llwydcoed	2022	Roadside	N/A	299388	204555	3.0	No	2.3	4.2	1.9
140	Penrhys Rd, Tylorstown	2022	Roadside	N/A	300840	194805	3.0	No	1.5	1.8	0.3
141	Gelligaled Rd, Ystrad	2022	Roadside	N/A	298799	194989	3.0	No	0.3	1.6	1.3
142	Coedpenmaen Rd Pontypridd	2026	Roadside	N/A	307800	190688	3	No	0.8	1.2	0.4
143	Llantrisant Rd, Groesfaen	2026	Roadside	N/A	306976	180969	3	No	1.4	2.4	1

Site ID	Site Name	Start	Site Type	Associated AQMA	OS Grid Reference		Site Height (m)	Co-located	Monitor to Nearest Relevant Exposure ⁽¹⁾ (m)	Kerb to Nearest Relevant Exposure (m)	Kerb to Monitor (m)
					X	Y					
144	High St, Treorchy	2026	Roadside	N/A	295917	196753	2.5	No	1.9	3.2	1.5
145	Canal Rd, Cwmbach	2026	Roadside	N/A	302530	201096	3	No	7.5	8.1	0.6

Table Notes

- (1) Where the difference is <1m, indicates that the sited monitor represents exposure and as such no subsequent distance calculation is required.
- (2) Where a row has been 'greyed' monitoring has commenced at the end of the calendar year and ratified and validated results are not yet available.

Figure 4-2: Map of Non-Automatic Monitoring Sites



4.2 Air Quality Monitoring Results in 2025

This subsection presents the results of air quality monitoring undertaken in 2025 by the Council with respect to its local air quality management duties. Table 4-3 provides the results for the annual mean NO₂ at all relevant monitoring sites, both automatic and non-automatic, whilst Table 4-4 provides the results of the 1-hour mean NO₂, and associated statistics, at relevant automatic monitoring sites. Table 4-5 provides the results of the annual mean PM₁₀ and Table 4-6 the results of the 24-hour Mean PM₁₀, and associated statistics, at relevant automatic monitoring sites.

Unless specifically stated all non-automatic Nitrogen Dioxide results have been corrected using the local bias factor [Bias A] for the respective year, see Appendix C1: Air Quality Monitoring Data QA/QC. Users of this data should not re-correct the data.

Table 4-3: Annual Mean NO₂ Monitoring Results

Site ID	Site Name	Site Type	Monitoring Type	NO ₂ Fall-Off ⁽¹⁾	Valid Data Capture Period (%) ⁽²⁾	Valid Data Capture 2025 (%) ⁽³⁾	NO ₂ Annual Mean Concentration (µgm ⁻³) ⁽⁴⁾				
							2021	2022	2023	2024	2025
4	Lanelay Terrace, Maesyrcoed	Suburban	Non-Automatic	-	100	100	11.5	11.9	11.6	9.6	8.9
8	Parc y Nant, Nantgarw	Roadside	Non-Automatic	NA	100	100	31.8	35.4	31.1	30.1 [‡]	27.5
21	Woodland Park, Penderyn	Urban Background	Non-Automatic	NA	100	100	5.3	5.1	4.9	4.2	4.4
37	Lakeside Court, A4119	Roadside	Non-Automatic	Y	75	75	27.8 {25.5}	28.0 {25.3}	26.5 {24.0}	23 {20.7}	22.7 [‡] {20.5}
41	East Rd, Tylorstown	Roadside	Non-Automatic	NA	91.7	91.7	40.6	39.8	41.3	38.2	32.5
44	Coronation Tr, Pontypridd	Roadside	Non-Automatic	Y	100	100	24.7 {29.3}	24.7 {29.6}	24.0 {28.8}	22 {26.8}	20.1 {24.4}
47	Broadway Co-Sampling	Roadside	Non-Automatic	NA	100	100	21.4	22.9	20.6	22.4	17.6
48	Broadway Co-Sampling	Roadside	Non-Automatic	NA	100	100	21.2	22.9	23.2	22.8	16.6
50	Broadway Co-Sampling	Roadside	Non-Automatic	NA	100	100	22.1	24.5	22.2	21.9	17.1
51	Broadway, Treforest	Roadside	Non-Automatic	NA	91.7	91.7	31.0	31.2	28.6	26.8	21.4

Site ID	Site Name	Site Type	Monitoring Type	NO ₂ Fall-Off ⁽¹⁾	Valid Data Capture Period (%) ⁽²⁾	Valid Data Capture 2025 (%) ⁽³⁾	NO ₂ Annual Mean Concentration (µgm ⁻³) ⁽⁴⁾				
							2021	2022	2023	2024	2025
52	Oxford St, Mt Ash	Roadside	Non-Automatic	-	83.3	83.3	31.7	33.2	36.4	34.8 [‡]	25.9
53	Cardiff St, Aberdare	Roadside	Non-Automatic	NA	91.7	91.7	29.5	29.3	30.4	26.7	23.9
55	Cilfynydd Rd, Cilfynydd	Roadside	Non-Automatic	NA	100	100	26.6	26.4	25.1	23.2	21.3
56	Broadway, Treforest	Roadside	Non-Automatic	NA	100	100	33.3	33.1	33.5	30.4 [‡]	27.3
66	Broadway, Treforest	Roadside	Non-Automatic	NA	100	100	29.4	30.5	29.4	26.3	23.8
68	Canon Street, Aberdare	Roadside	Non-Automatic	-	75	75	27.1	25.3	26.2	23.7	20.8 [‡]
69	Cardiff St, Aberdare.	Roadside	Non-Automatic	NA	100	100	25.5	27.0	25.3	20.7	20.7
70	Broadway	Roadside	Automatic	Y	100	100	21.7 {24.1}	22.8 {25.0}	20.1 {22.0}	21.8 {24.0}	17.9 {19.6}
76	Heol-y-Gors, Nantgarw	Roadside	Non-Automatic	-	100	100	25.2	26.1	26.1	21.7	21.5
79	High St, Pontypridd	Roadside	Non-Automatic	-	91.7	91.7	25.3	26.6	28.0	22	19.3
80	Morgan St, Pontypridd	Roadside	Non-Automatic	NA	100	100	23.2	24.4	25.2	21	17.7
81	Sardis Bridge Pontypridd	Roadside	Non-Automatic	-	100	100	25.7	27.1	27.5	25.7	24.6
82	Main Rd, Llantwit Fardre	Roadside	Non-Automatic	Y	100	100	22.9 {20.3}	23.4 {21.2}	22.8 {20.6}	19.5 {17.6}	17.7 {16.0}
83	Ceridwen Terrace	Roadside	Non-Automatic	-	100	100	26.6	27.0	28.6	26.7 [‡]	21.6
84	Gelliwastad Rd	Roadside	Non-Automatic	-	91.7	91.7	39.1	38.5	40.8	36.1	26.1
85	Efail Isaf Junction (West)	Roadside	Non-Automatic	NA	100	100	29.4	27.6	27.2	21.8	20.6
88	Victoria Sq, Aberdare	Roadside	Non-Automatic	-	100	100	26.5	27.0	26.0	21.9	24.3
90	Cymmer Rd, Dinas	Roadside	Non-Automatic	NA	100	100	33.5	30.4	32.3	26.8	24.3
91	High St, Cymmer	Roadside	Non-Automatic	-	100	100	43.8	43.6	45.0	37.7	33.6
93	High Street, Ferndale	Roadside	Non-Automatic	-	83.3	83.3	40.3	37.6	39.8	37.8	32.4
96	Oxford St, Mt Ash	Roadside	Non-Automatic	-	100	100	26.0	28.2	29.5	27.7	27.5
97	New Rd, Mt Ash	Roadside	Non-Automatic	NA	100	100	38.2	39.5	41.5	34	31.5

Site ID	Site Name	Site Type	Monitoring Type	NO ₂ Fall-Off ⁽¹⁾	Valid Data Capture Period (%) ⁽²⁾	Valid Data Capture 2025 (%) ⁽³⁾	NO ₂ Annual Mean Concentration (µgm ⁻³) ⁽⁴⁾				
							2021	2022	2023	2024	2025
101	Long Row, Blaenllechau	Urban Background	Non-Automatic	NA	100	100	5.9	5.1	5.8	4.8	4.7
103	Ty Mawr Farm, Efail Isaf	Urban Background	Non-Automatic	NA	100	100	7.4	6.3	7.0	5.1	5.3
105	Greenfield Ave, Glyncoch	Urban Background	Non-Automatic	NA	100	100	7.6	7.3	7.0	5.8	5.9
106	Partridge Road, Llwynypia	Roadside	Non-Automatic	-	91.7	91.7	34.3	31.4	30.5	28.5	22.9
107	High St, Ferndale	Roadside	Non-Automatic	-	100	100	28.5	27.7	28.1	25.4	25.8
108	Nightingales Bush ⁽⁶⁾	Roadside	Non-Automatic	NA	100	100	38.1	39.0	37.9	34.8	34.1
110	Cowbridge Rd	Roadside	Non-Automatic	NA	83.3	83.3	23.2	23.2	23.4	18	19.8
111	Bridgend Rd, Llanharan	Roadside	Non-Automatic	-	100	100	32.4	27.3	27.3	26.6 [‡]	23.1
113	Mill St, Tonyrefail	Roadside	Non-Automatic	NA	100	100	28.3	27.8 [‡]	29.9	24.6	21.1
114	Pentrebach Rd	Roadside	Non-Automatic	NA	100	100	23.5	22.2	22.5	20	17.3
117	High St, Cymmer	Roadside	Non-Automatic	NA	83.3	83.3	44.0	43.9	45.0	40.9 [‡]	34
118	High St, Cymmer	Roadside	Non-Automatic	NA	100	100	52.9	52.2	52.7	40.6	41.2
120	Pontypridd	Roadside	Automatic	NA	83.3	83.3	28.3	28.4	27.2	23.5	19.8
122	Mill St, Tonyrefail	Roadside	Non-Automatic	NA	91.7	91.7	29.0	28.0	24.1 [‡]	20.3	18.8
124	Trebanog Rd, Trebanog	Roadside	Non-Automatic	-	100	100	23.1	20.9	23.3	19.3	16.8
128	Cardiff Rd, Treforest	Roadside	Non-Automatic	NA	75	75	25.5	27.4	28.4	23.6	21.9 [‡]
129	Main Rd, Church Village	Roadside	Non-Automatic	Y	91.7	91.7	20.9 {19.8}	20.4 {19.2}	21.8 {20.5}	15.4 {14.5}	14.7 {13.9}
131	Mt Ash	Roadside	Automatic	NA	91.7	91.7	33.2	31.6	31.6	30	26.6
132	Cowbridge Rd, Talygarn	Roadside	Non-Automatic	NA	91.7	91.7	24.4	22.8	22.4	18.7	19.1
134	Pontypridd High School	Other	Non-Automatic	Y	100	100	15.1 {13.0}	16.4 {14.5}	16.3 {14.3}	13.7 {11.9}	12.8 {11.2}

Site ID	Site Name	Site Type	Monitoring Type	NO ₂ Fall-Off ⁽¹⁾	Valid Data Capture Period (%) ⁽²⁾	Valid Data Capture 2025 (%) ⁽³⁾	NO ₂ Annual Mean Concentration (µgm ⁻³) ⁽⁴⁾				
							2021	2022	2023	2024	2025
135	Ysgol Evan James	Roadside	Non-Automatic	Y	100	100	22.9 {18.3}	23.5 {19.6}	22.2 {18.6}	18.9 {15.9}	17.3 {14.7}
136	Ystrad Rd, Pentre	Roadside	Non-Automatic	-	91.7	91.7	33.7	36.2	34.4	26.8	25.2
137	High St, Treorchy	Roadside	Non-Automatic	NA	100	100	27.0	25.7	27.9	22.7	20.9
138	Berw Rd, Pontypridd	Roadside	Non-Automatic	-	100	100	31.7	31.1	32.1	25.9	20.8
139	Llwydcoed Rd, Llwydcoed	Roadside	Non-Automatic	Y	100	100	-	15.8 {14.0}	16.5 {14.5}	13.3 {11.8}	12.3 {10.9}
140	Penrhys Rd, Tylorstown	Roadside	Non-Automatic	NA	100	100	-	30.0	30.6	26.7	22.6
141	Gelligaled Rd, Ystrad	Roadside	Non-Automatic	Y	91.7	91.7	-	25.2 {24.4}	24.9 {24.1}	20.9 {20.2}	18.4 {17.8}

Table 4-4: 1-Hour Mean NO₂ Monitoring Results

Site ID	Site Name	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽²⁾	Valid Data Capture 2025 (%) ⁽³⁾	NO ₂ 1-Hour Means > 200µgm ⁻³ ⁽⁵⁾				
						2021	2022	2023	2025	2025
70	Broadway	Roadside	Continuous	92.9	92.9	0 (64)	0 (76)	0 (62.9)	0 (64.3)	0 (63.7)
120	Pontypridd	Roadside	Continuous	75.5	75.5	0 (100)	0 (118)	0 (86.2)	0 (79.0)	0 (73.8)
131	Mt Ash	Roadside	Continuous	81.6	81.6	0 (108.5)	0 (106)	0 (101.5)	0 (91.0)	3 (148)

Table Notes

Exceedances of the NO₂ annual mean objective of 40 µgm⁻³ are shown in bold.

Exceedances of the NO₂ 1-hour mean objective (200 µgm⁻³ not to be exceeded more than 18 times per year) or otherwise NO₂ annual means exceeding 60 µgm⁻³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in bold and underlined.

- (1) Monitoring locations indicated with 'Y' have met the NO₂ 'fall-off' correction criteria and the corrected predicted mean at the receptor is provided in curly brackets '{ }', monitoring locations indicated with 'NA' experience location specific reasons which would suggest it is not appropriate to undertake NO₂ 'fall-off' correction, monitoring locations indicated with '-' are located at the relevant population and do not require correction.
- (2) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
- (3) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).
- (4) Means for diffusion tubes have been corrected for bias with means labelled with a ‡ having been "annualised" as per Boxes 7.9 and 7.10 in LAQM.TG22, as their valid data capture for the full calendar year is less than 75%. See Appendix C1: Air Quality Monitoring Data QA/QC for details.
- (5) The 99.8th percentile of 1-hour means is provided in parenthesis and should be considered where data capture is less than 85%

Table 4-5: Annual Mean PM₁₀ Monitoring Results

Site ID	Site Name	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	PM ₁₀ Annual Mean Concentration (µgm ⁻³) ⁽³⁾				
					2021	2022	2023	2024	2025
130	Upper Garth Avenue	Industrial	99.9	99.9	11.5	16.4	13.8	14.7	15.6

Table 4-6: 24-Hour Mean PM₁₀ Monitoring Results

Site ID	Site Name	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	PM ₁₀ 24-Hour Means > 50 µgm ⁻³ ⁽³⁾⁽⁴⁾				
					2021	2022	2023	2024	2025
130	Upper Garth Avenue	Industrial	99.9	99.9	2 (19.9)	3 (28.7)	1 (28.0)	9 (29.6)	13 (30.1)

Table Notes:

Exceedances of the PM₁₀ annual mean objective of 40 µgm⁻³ are shown in bold.

Exceedances of the PM₁₀ 24-hour mean objective (50 µgm⁻³ not to be exceeded more than 35 times per year) are shown in bold and underlined.

- (1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
- (2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).
- (3) Due to local specific influences means have not been “annualised” as per Boxes 7.9 and 7.10 in LAQM.TG22
- (4) The 90.4th percentile of daily means is provided in brackets and should be considered where data capture is less than 85%

Table 4-7: Annual Mean PM_{2.5} Monitoring Results

Site ID	Site Name	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2025 (%) ⁽²⁾	PM _{2.5} Annual Mean Concentration (µgm ⁻³) ⁽³⁾				
					2021	2022	2023	2024	2025
130	Upper Garth Avenue	Industrial	99.9	99.9	-	-	5.7	6.9	7.8

Table Notes:

- (1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year
- (2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).
- (3) Due to local specific influences means have not been “annualised” as per Boxes 7.9 and 7.10 in LAQM.TG22

4.3 Comparison of 2025 Monitoring Results with AQOs

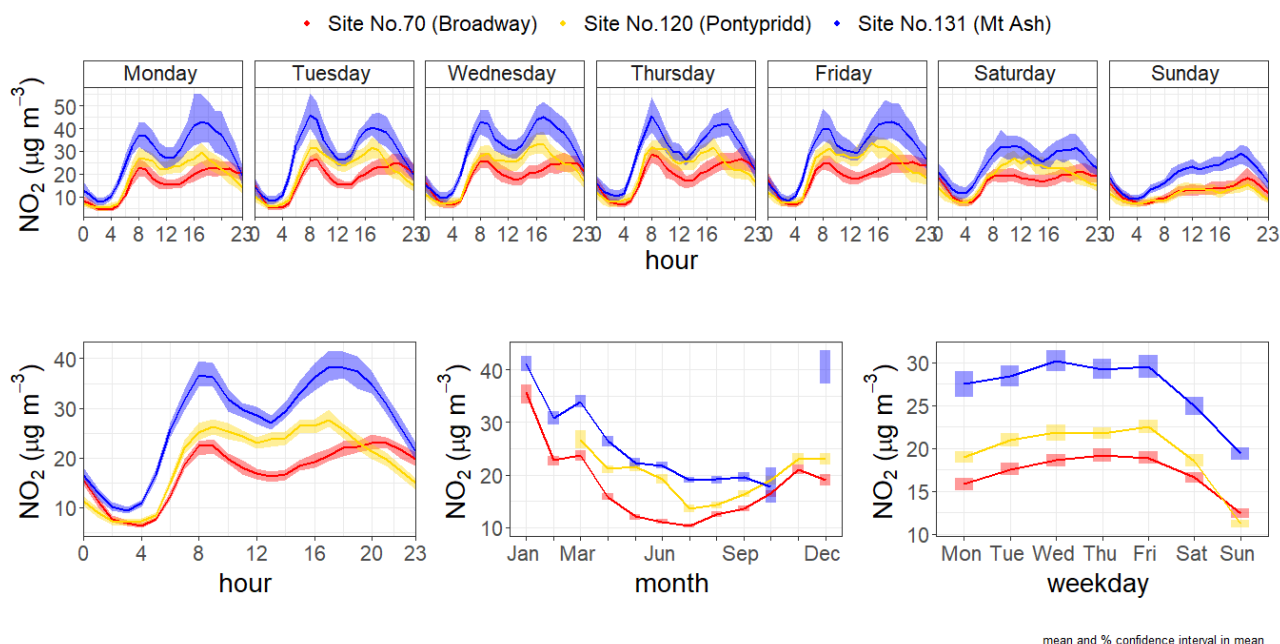
This section details the Local Authority's consideration of air quality monitoring data collected in 2025, its context to previous years and its relation to relevant Air Quality Objectives.

4.3.1 Nitrogen Dioxide [NO₂]

It has been reported [9] that the South Wales Non-agglomeration Zone, which includes Rhondda Cynon Taf, was compliant with the 1-hour UK Limit Value for NO₂ and the annual mean UK Limit Value for NO₂ and is likely to remain so. Published UK wide statistics [10] indicate the annual mean concentration of NO₂ at national urban background sites decreased by 8% since 2023 and “the annual mean concentration of NO₂ at urban background sites has decreased over the time it has been monitored to ... the lowest point [since at least 1990]”. With the improvement attributed to “newer road vehicles subject to stricter emission standards [entering] the fleet and power generation [having moved] away from the use of coal”. It has also been reported [11] that Rhondda Cynon Taf, in comparison with other Welsh local authority areas, has been ranked² (lower the better) 5th out of 8 for NO₂.

To help consider the relevance and context of the latest NO₂ monitoring data, from 2025, it is possible to examine it in a number of ways. Figure 4-3 below contains time variation plots of the 2025 absolute hourly mean NO₂ measurements collected and assessed against time of the day, day of the week and month of the year, for each NO₂ automatic monitoring location in 2025.

Figure 4-3: Time Variation Plot of NO₂ Automatic Monitoring Data during 2025 at Site No. 70 (Broadway), Site No. 120 (Pontypridd) and Site No. 131 (Mt Ash)



² Although there are currently twenty-two Local Authorities in Wales, some may be ranked equally

The time variation plots clearly illustrate, at all three NO₂ automatic monitoring sites, several relationships that are widely observed within Wales. These observed relationships often underline the anthropogenic nature of NO₂ within a local air quality context as well as its relationship with naturally occurring cyclical events and regional influences:

- Diurnal Relationship

This day/night relationship can be observed with the steep relative increases in NO₂ at ~6 am and then a more gradual decline at ~6 pm. This relationship is closely associated to human activity, notably commuter linked transportation, giving rise to NO₂ and its precursors, and also the natural influence of sunlight on the prevalence of NO₂, with respect to its interaction with day-light dependant associative pollutants.

- Hebdomadal Relationship

This through-the-week relationship can be strongly correlated to human activity and is often observed as a pronounced reduction in levels of NO₂ on the weekend, particularly Sunday, when transportation and industrial activity may be subdued.

- Biannual Relationship

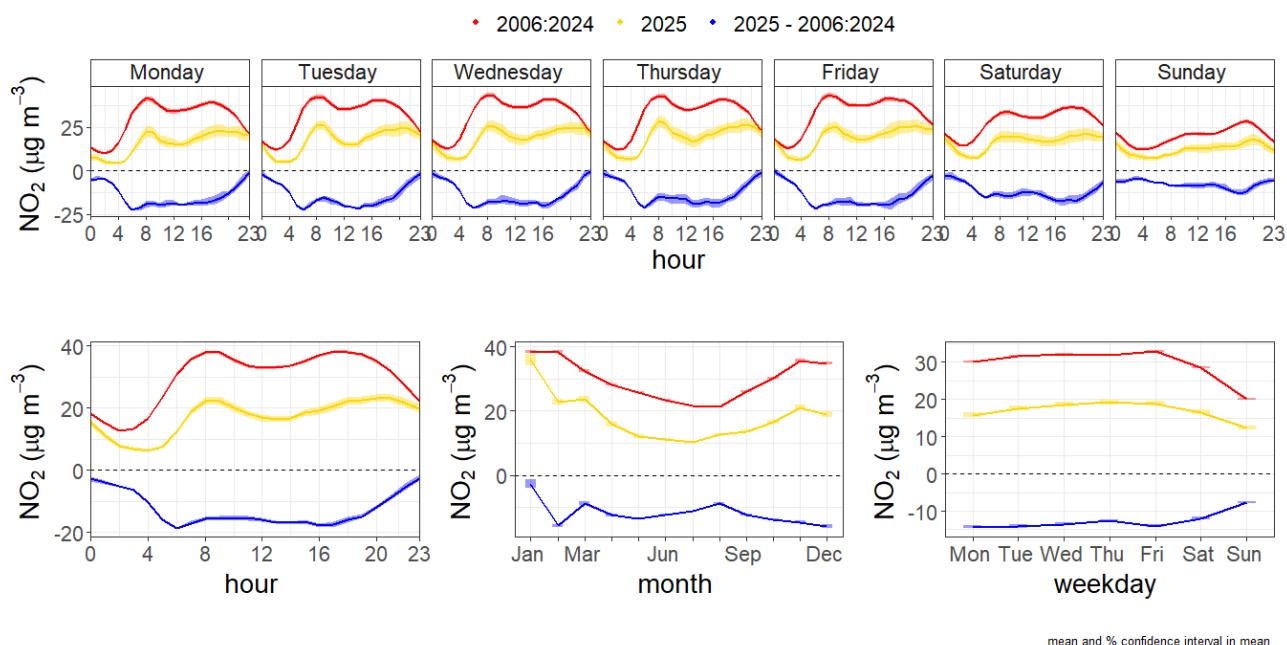
This summer/winter relationship can be influenced by human activity, for instance the greater use of domestic heating and transport during the winter, resulting in greater emissions of NO₂ and its precursors. Natural phenomena can also be influential, such as winter weather patterns that are more likely to give rise to conditions that reduce the local dispersion of air pollutants, allowing them to build-up more readily. Whereas, summer conditions may, at certain times, result in greater levels of tropospheric Ozone [O₃] that can incidentally reduce NO₂ stability.

Although very similar patterns in the occurrence of NO₂ are observed at all three automatic sites, for instance the similar levels of NO₂ observed late at night, reflective of the regional background experienced to a similar degree by all three sites. It is also the case that specific circumstances at each location are likely reflected in the observations. The comparatively reduced levels of NO₂ at Site No. 70 (Broadway) is likely reflective of the locations suburban characteristics. Whereas the greater emphasis of peak levels of NO₂ at 8 am and 6 pm at Site No. 131 (Mt Ash) may reflect the large degree of regionally related commuting traffic traversing the local road network at this location. Although also observed to an extent at Site No. 120 (Pontypridd), this location also seems to experience comparatively less of a reduction in NO₂ on Saturdays, which may reflect road traffic related to the location being part of a local commercial hub.

Both human factors and natural phenomena can be heavily influenced by changeable weather conditions, which themselves maybe cyclical. These weather conditions can result in significant variability in observed air quality from year to year. For instance, a protracted dry and cold winter may increase the emission of NO₂ and its precursors, from domestic heating activities, or increase the likelihood of weather phenomena that may reduce the dispersion of local pollution. Significant unusual events as well as a globally changing environment can also influence local air quality either in the short-term or have more longer term implications.

At Site No. 70 (Broadway) where monitoring data has been consistently collected since 2006 it is possible to compare the hourly mean monitoring data from 2025 with the historic average, between 2006 and 2024. Figure 4-4 provides normalised time variation plots of this comparison and the calculated difference between the current and historic measurements.

Figure 4-4: Normalised Time Variation Plot of NO₂ at Site No. 70 (Broadway) from 2006



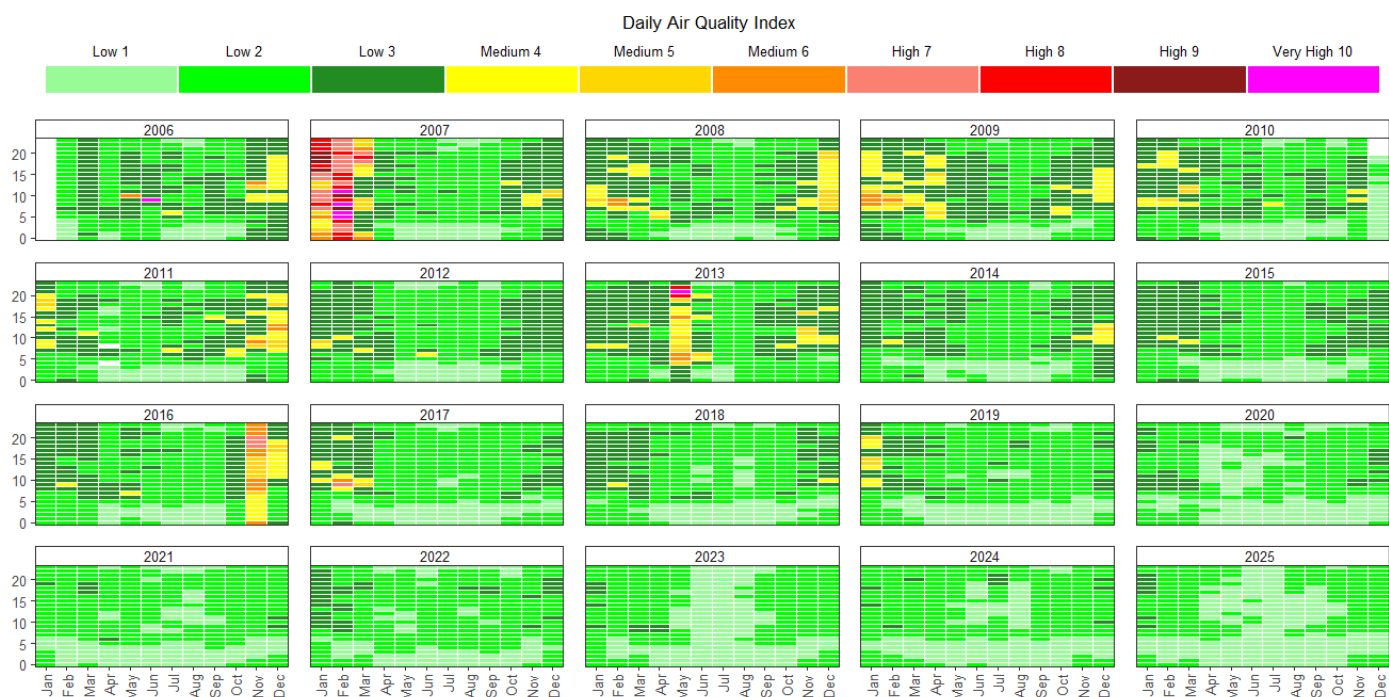
The above normalised time variation plots of current and historic NO₂ measurements shows that the pattern associated with the occurrence of NO₂ at Broadway have historically (results from 2006 to 2024) been consistent (the narrowness of the plotted red line). Both the latest 2025 results (the plotted gold line) and the historic results (the plotted red line) show very similar patterns, associated with peak NO₂ during the day, the week and the year, albeit with levels of NO₂ in 2025 generally 11.8 µgm⁻³ lower than the longer-term average.

The lower than longer-term average levels of NO₂ apparent in 2025 appear to be relatively stable throughout 2025, suggesting the possibility of an ongoing improving trend in NO₂ that has continued into and throughout 2025. The less obvious improvement (the levels of NO₂ being similar rather than markedly lower than the long term trend) during March and August 2025 could be as a result of notably dry and sunny weather at these times, with Wales recording its 4th driest March at the time and a heatwave in August [12], which in turn could of increased the prevalence of weather conditions that bring transboundary pollutants from continental Europe.

The trend level plot of the recorded Daily Air Quality Index [13] for NO₂ at Site No. 70 (Broadway) produced in Figure 4-5 below, is another useful way of examining the relationship of NO₂ over each year between 2006 and 2026. The trend level plot demonstrates that most years have comparable distributions in the occurrence of NO₂, although certain years (2007, 2009, 2011 & 2013) potentially show emphasised winter periods of elevated levels of NO₂, albeit within the same consistent pattern. Beyond 2016 the occurrence of the highest elevated levels of NO₂ appear reduced, in comparison to the preceding period, potentially indicating a change in the trend in locally observed levels of NO₂. Given the known disruption attributed to COVID-19, with a substantial decrease in local travel and some industrial activity

during parts of 2020, it is unsurprising that this year appears distinctly more muted than the historic record. More recently, the levels of NO₂ from 2025, following on from 2023 onwards, show the lowest levels recorded.

Figure 4-5: Trend Level Plot for the Daily Air Quality Index for NO₂ at Site No. 70 (Broadway)



Years showing particularly elevated or depressed levels of NO₂ may, in part, be the result of regular cyclic variation in weather, albeit climatic change may make these changes more or less common. This observed cyclic pattern in air quality can also often be influenced by local human derived events, for instance Bonfire Night, resulting in emissions not normally experienced at any other time of year. In addition, routinely observed transient transboundary events in which air pollution can be transported great distances from its source, such as Saharan sand winds, can have an important influence on locally observed levels of air pollution. Occasionally, certain ad hoc events, for instance the Eyafjallajökull [14], Grímsvötn [15], Bárðarbunga [16] and Sundhnúksgígar volcanic eruptions can have an effect on regional UK air quality.

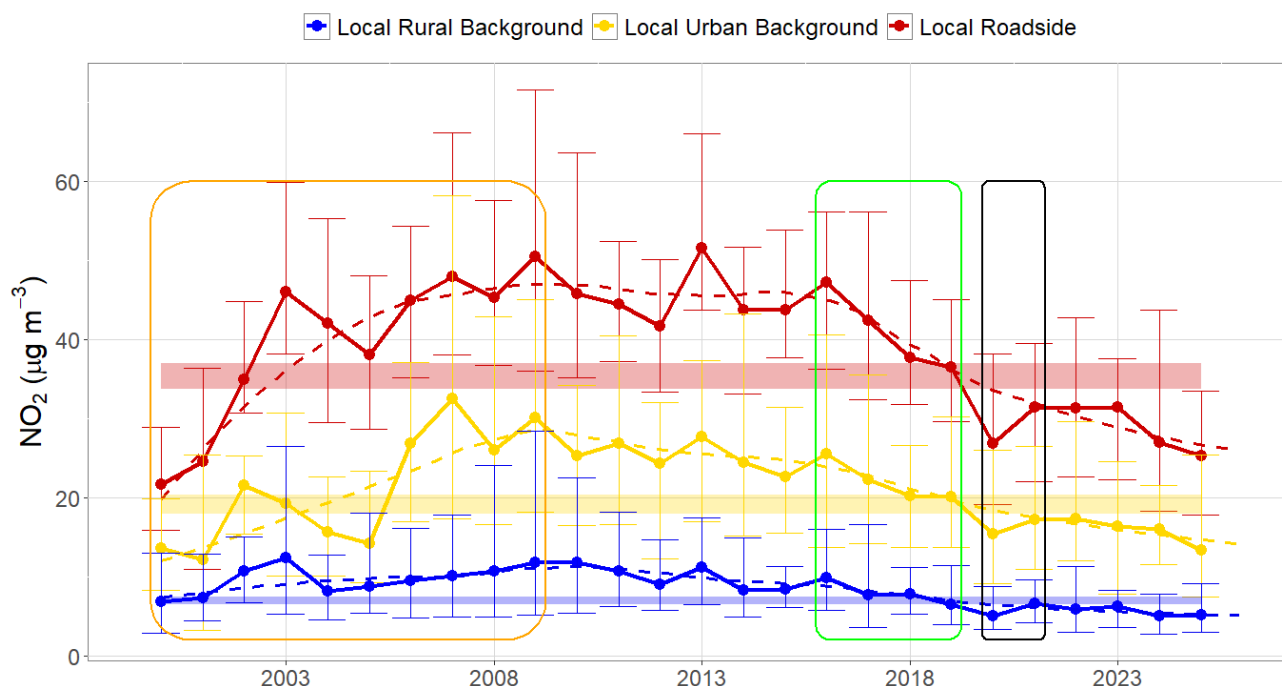
As any individual monitoring site can be influenced by very local circumstances, it can be of benefit to consider a collection of similar monitoring locations when assessing general influences upon local air quality. It has been possible to collate monitoring data from locations where monitoring has been maintained for some time and influences from new developments or abnormal events are expected to have been minimal. These locations have been categorised with regards to their representation of the 'local rural background'³ environment,

³ rural or sub-urban locations where there is an absence of local busy roads or industry and it most closely reflects the regional background such as isolated and peri-urban residential areas.

the 'local urban background'⁴ environment and the 'roadside'⁵ environment within Rhondda Cynon Taf. The local rural background may help to illustrate wide-scale regional influences. The local urban background environment likely represents the vast majority of areas within Rhondda Cynon Taf where people live. The local roadside environment tends to be reflective of small parts of various communities that may be more at risk of experiencing elevated levels of NO₂, often due to the close proximity of major or strategic roads.

Figure 4-6 produces a time plot of the local rural background (blue), local urban background (gold) and local roadside (red) environments, with the respective NO₂ annual mean (solid line with solid dots), the associated trend line⁶ (dashed line), the 10-year mean Confidence Interval (shaded zone) and the intra-year monthly mean spread (whiskers). Due to the exceptional events of 2020, the 10-year mean Confidence Interval (shaded zone) has been determined with respect to the most recent 10-year period but excluding 2020.

Figure 4-6: Time Plot of the annual mean for NO₂ at the local rural background (blue), local urban background (gold) and roadside (red) environments



When compared to nationally produced datasets, the local rural background (solid blue line) shows strong consistency with published background levels and, as with the local urban background (solid gold line), demonstrate current and historic levels of NO₂ within most of Rhondda Cynon Taf that are well below the 40µgm⁻³ annual mean AQO for NO₂. This understanding is in keeping with Rhondda Cynon Taf's layout of linear settlements, which

⁴ urbanised residential areas at a distance from the kerb of major roads and an absence of local industry such as residential areas of most townships and the suburbs of strategic towns

⁵ roadside urban locations often within current and former Air Quality Management Areas and associated with commercial centres or strategic roads, where it is believed that the sources of NO₂ have not markedly changed such as residential areas in close proximity to busy urban roads

⁶ produced by Local Polynomial Regression Fitting with α of 0.5

observe a generally suburban character, interposed with large rural spaces, which would be conducive to reducing general exposure to elevated levels of NO₂. Given that the rural and local urban backgrounds are likely to represent, by area and population, most of Rhondda Cynon Taf, it is very likely that the vast majority will experience levels of NO₂ well below the current annual mean AQO for NO₂. However, the local roadside (solid red line) environment does historically illustrate that where certain circumstances manifest, which are often limited to relatively small specific areas, a risk of elevated levels of NO₂ may become apparent.

Air quality can generally fluctuate over time as the significance of various sources and interactions change. For instance, 2007, 2009 and 2013 appear to demonstrate all three environments having respective annual means clearly above the ten-year mean confidence interval (shaded areas), potentially indicating unusually 'poor' air quality years. Over-time the degree of fluctuation may change as underlying trends evolve, examination of the intra-year monthly mean spread (whiskers) indicates a relatively consistent spread of results in years not considered as observing unusually 'poor' air quality and with the spread potentially reducing in range from 2018 onwards. The monthly mean spread also suggests that, since 2009, those years experiencing comparatively elevated levels of NO₂ may be as a result of specific limited periods of time within the year when the levels of NO₂ were particularly elevated as opposed to a general uplift in NO₂ throughout the year. This could suggest, post 2009, specific influences upon (for instance weather conditions) rather than the underlying trend in the sources of NO₂ may be more significant, in increasing the likelihood of any one year experiencing comparatively elevated levels of NO₂.

After a period of rising NO₂ levels between 2000 to 2009 (orange boxed area) followed by a period of fluctuation between 2010 and 2015, the trend (dotted lines), from 2016 to 2019 (green boxed area), is of significantly reducing levels of NO₂ in all three environments. A similar evolution of the prevailing trend in NO₂ has also been reported [10] with respect to the UK as a whole. It is borne in mind that COVID-19 related disruption (black boxed area) appears associated with markedly lower levels of NO₂, during 2020, than the underlying trend would have suggested. This exceptional impact has initially ebbed to some extent, as society re-establishes prevailing practices, resulting in a somewhat expected uplift in NO₂ subsequently. However, after initial rebound and apparent stabilisation between 2021 to 2023, a more recent improving trend potentially appears to have reestablished, with 2025 experiencing the lowest levels of NO₂ since the early 2000s at least.

To further understand the currently observed trend, examination can be made of the five year trend, which is considered⁷ the likely minimum time period to examine a trend in NO₂. However, it is acknowledged that the five year trend can be influenced by data outliers or cyclical effects that have a similar or longer timeframe, potentially distorting the trends interpretation if considered in isolation. For instance, it can capture the impact of COVID-19 related disruption considered at its nadir in 2020. To reduce this exceptional influence skewing understanding, Table 4-8 provides quantification of the respective trends, for each environment, without inclusion of monitoring results from 2020.

⁷ Paragraph 4.18 of LAQM.TG(22)

Table 4-8: Estimation of the five-year trend in NO₂ at each RCT Environment

Environment	Five-year Trend (% yr ⁻¹ five-year trend)
Local Background	-4.94
Local Urban	-4.98
Local Roadside	-4.79

Given the similarity of the improvement in the five-year trend in NO₂ within each local environment, its cause may be associated with factors widely experienced throughout Rhondda Cynon Taf over an extended period of time. Although prolonged conducive weather conditions may play a part, given the length of consistent improvement within the local background and local urban environments and a similar experience reported [17] to some extent throughout Wales, human factors are likely to be strongly relevant.

The current and likely future trend in NO₂ may be influenced by a range of factors. At the national level it has been suggested that the increase and subsequent stability in the occurrence of NO₂ observed from the early 2000s to mid 2010s may “likely [be] as a result of the increased ownership of diesel-fuelled vehicles which historically emitted far more nitrogen oxides compared to equivalent petrol-fuelled vehicles” potentially “offsetting the impact of reduced emissions from other sources” [10]. At the local level, renewed urbanisation in the south of Rhondda Cynon Taf, during the 2000s and 2010s, may have also contributed to significant local traffic growth and subsequently an increase in the local emission of NO₂.

Since that period, continued overall reductions in national emission inventories of certain air pollutants as well as the adoption of “newer vehicles subject to stricter emissions standards” and certain local transport network improvements may of, in part, helped to sustain a local reducing trend in NO₂ [10]. It is also understood that the winter periods of 2017 to 2019 experienced prevailing metrological conditions that may have been benign to minimising the local occurrence of NO₂.

Across the UK in 2025 levels of NO₂ still were substantially lower in comparison to the recent past [10] and in many locations observed their lowest levels of NO₂ since 2001. Although the trend may have waxed and waned during periods since 2020, it also appears that a continuing albeit possibly less dramatic yet still incrementally improving position persists. It remains difficult to determine if future continued cultural and economic changes, such as the continuation of home-working and non-traditional commuting times by some and the adoption of ‘low emission vehicles’, could significantly increase the improving trend in the near-term. Alternatively, there is an apparent risk that potential future economic conditions challenging the adoption of new transport technology may moderate the rate of future improvement. Nonetheless, it is expected in the longer-term that NO₂ levels should continue to decrease, potentially dramatically, in time.

It is believed that improvements to the local background and local urban environments are likely being sustained by various national and broader local policies and actions which are having a wide geographical effect, possibly in combination with underlying longer-term cyclic climatic changes. These measures would also be expected to have an impact upon the local roadside environment but due to local circumstances their effects may have historically been

more muted and slower to fully manifest. Nonetheless, a combination of broader measures in association with locally targeted intervention at several AQMAs, may have helped to support improvement within the local roadside environment, albeit this improvement may slow or shift to a stabilised environment in the near term at some locations.

4.3.2 Comparison with the 1-hour AQO for NO₂

The automatic monitoring data for NO₂ from 2025, which can be directly compared to the 1-hour AQO for NO₂, demonstrates that Broadway (Site No. 70), Pontypridd (Site No. 120) and Mt Ash (Site No. 131) did not exceed the 1-hour mean AQO for NO₂. Due to the logistical complexity of automatic monitoring, it has not been possible to locate these monitoring instruments at all relevant locations. Fortunately, inference can also be drawn from the annual mean, which can be monitored more readily using non-automatic methods, with locations showing an annual mean greater than 60 µgm⁻³ potentially likely to be in breach of the 1-hour AQO for NO₂. As the annual mean for NO₂ can fluctuate from one year to the next, without there necessarily being an underlying change in circumstances, it can be appropriate to examine monitoring sites that have shown an NO₂ annual mean greater than 54 µgm⁻³ during the recent past. As these locations may require further consideration to assess if they are at risk of experiencing an annual mean for NO₂ greater than 60 µgm⁻³, in the near future.

Within Rhondda Cynon Taf, it is apparent that in 2025, no locations experienced sufficiently elevated levels of NO₂, above 60 µgm⁻³, that would likely have resulted in a breach of the 1-hour mean AQO for NO₂ and there are no relevant monitoring locations within Rhondda Cynon Taf which observed an annual mean for NO₂ that was greater than 54 µgm⁻³ in any of the past five years (including 2025). As such it is expected that all relevant locations within Rhondda Cynon Taf will likely be compliant to the 1-hour mean AQO for NO₂.

4.3.3 Comparison with the annual mean AQO for NO₂

Figure 4-7 displays a map of Rhondda Cynon Taf and the annual mean NO₂ at each active monitoring site in 2025; the blueness in hue of each circle indicates a lower annual mean and conversely the orange to redness in hue of each circle indicates a higher annual mean for NO₂. As expected, the map clearly shows that the varying communities within Rhondda Cynon Taf have experienced differing levels of NO₂ in 2025. This will be for a wide range of reasons both local and regional. For instance, Figure 4-7 highlights the importance of the local and regional arterial road network and the pattern of local urbanisation and regional valley topography, as important factors in the likelihood of a location experiencing elevated levels of NO₂.

Figure 4-7: Map of Rhondda Cynon Taf displaying the annual mean for NO₂, in 2025, at each monitoring site.

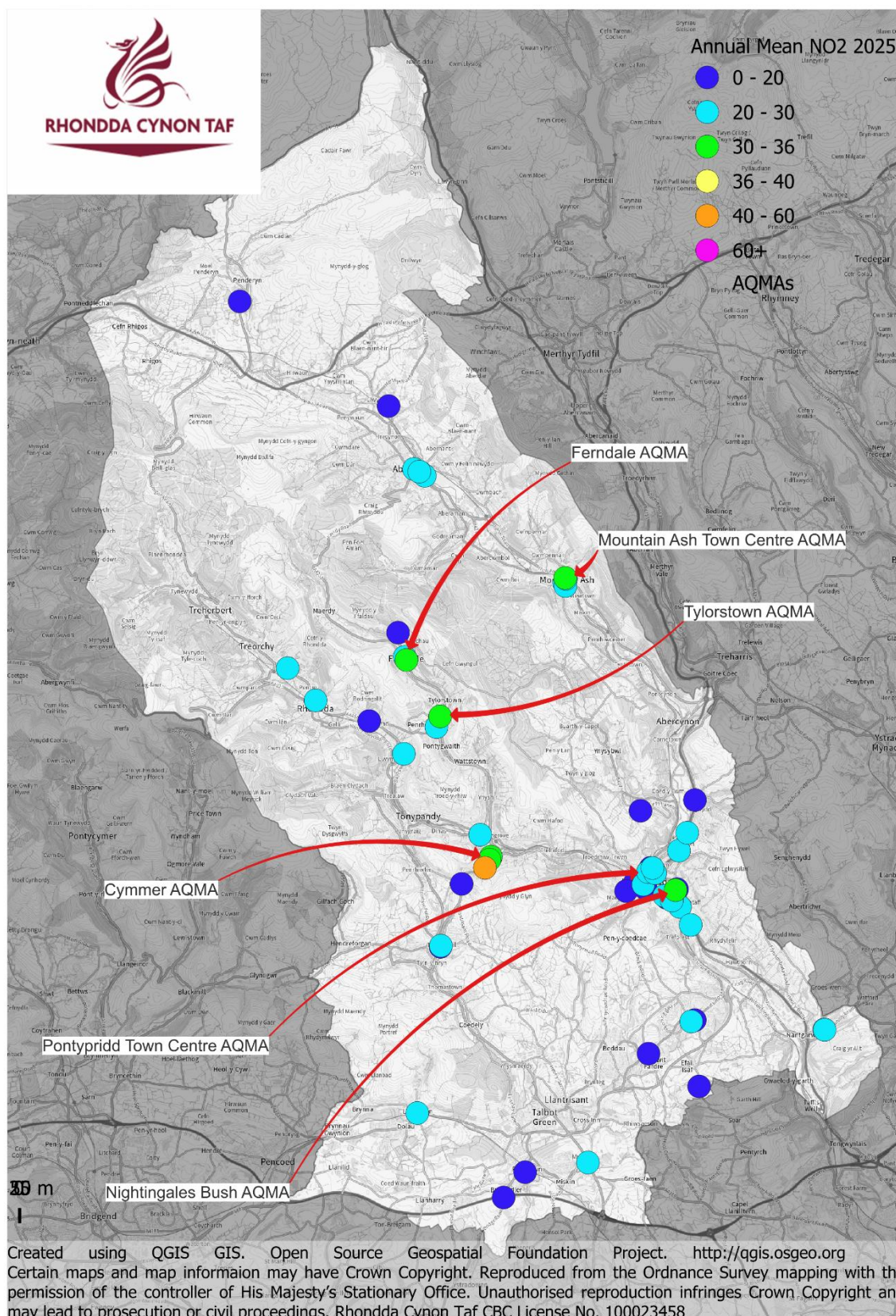


Table 4-9 collates each monitoring site to its region and associated local community. Where the community is in bold, the community is also associated with an AQMA that has been declared for a breach of the annual mean AQO for NO₂, and where underlined the AQMA has in addition been declared for a breach of the 1-hour AQO for NO₂.

Table 4-9: Annual mean NO₂, in 2025, collated to region and each local community.

Region	Community ⁽¹⁾⁽²⁾	Site No.	2025 NO ₂ Annual Mean ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾
Background	Rhondda	101	4.7
	Cynon	21	4.4
	Taf	4	8.9
		103	5.3
		105	5.9
Rhondda	<u>Cymmer</u>	91	33.6
		117	34
		118	41.2
	Dinas	90	24.3
	Ferndale	93	32.4
		107	25.8
	Llwynypia	106	22.9
	Pentre	136	25.2
	Tonyrefail	113	21.1
		122	18.8
	Trebanog	124	16.8
	Treorchy	137	20.9
	Tylorstown	41	32.5
		140	22.6
	Ystrad	141	18.4 {17.8}
Cynon	Aberdare	53	23.9
		68	20.8 [‡]
		69	20.7
		88	24.3
	Llwydcoed	139	12.3 {10.9}
	Mountain Ash	52	25.9
		96	27.5
		97	31.5
		131	26.6
Taf	Broadway	51	21.4
		56	27.3
		66	23.8
		70	17.9 {19.6}
	Church Village	85	20.6
		129	14.7

Region	Community ⁽¹⁾⁽²⁾	Site No.	2025 NO ₂ Annual Mean ⁽³⁾⁽⁴⁾⁽⁵⁾⁽⁶⁾
			{13.9}
	Cilfynydd	44	20.1 {24.4}
		55	21.3
		134	12.8 {11.2}
	Llanharan	111	23.1
	Llantwit Fardre	82	17.7 {16.0}
	Mwyndy	37	22.7 [‡] {20.5}
	Nantgarw	8	27.5
		76	21.5
	Nightingales Bush	108	34.1
		114	17.3
	Pontyclun	110	19.8
	Pontypridd	79	19.3
		80	17.7
		81	24.6
		83	21.6
		84	26.1
		120	19.8
		135	17.3 {14.7}
		138	20.8
	Talgarn	132	19.1
	Treforest	128	21.9 [‡]

Table Notes

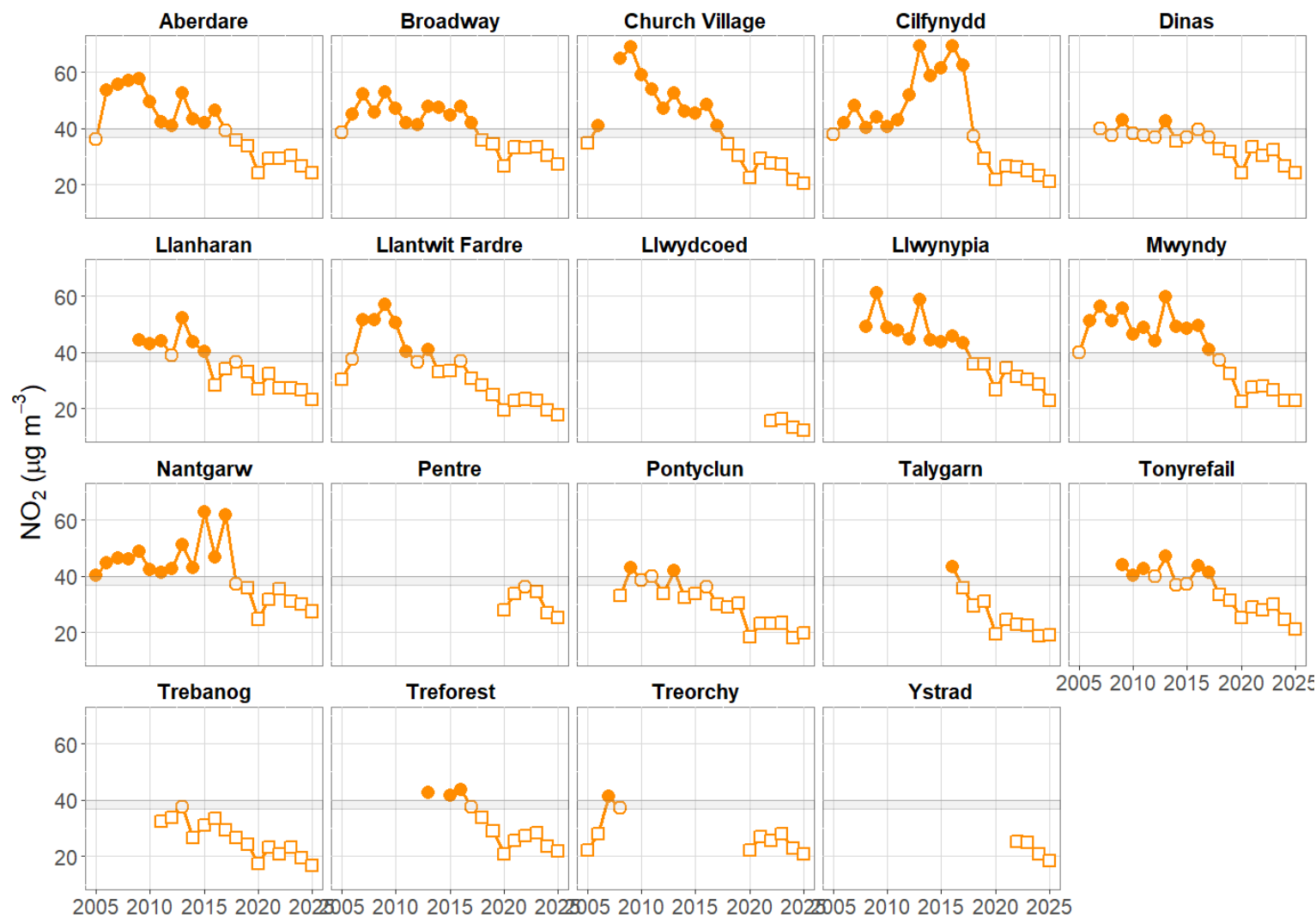
- (1) Communities highlighted in bold have within them an Air Quality Management Area declared in respect of an exceedances of the NO₂ annual mean objective
- (2) Communities that are underlined and highlighted in bold have within them an Air Quality Management Area declared in respect of an exceedances of the annual mean 1-hour mean objectives for NO₂.
- (3) Exceedances of the NO₂ annual mean objective of 40 µgm⁻³ are shown in bold.
- (4) Exceedances of the NO₂ 1-hour mean objective (200 µgm⁻³ not to be exceeded more than 18 times per year) or otherwise NO₂ annual means exceeding 60 µgm⁻³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in bold and underlined.
- (5) Annual means have been corrected for bias with means labelled with a ‡ having been “annualised” as per Boxes 7-9 and 7-10 in LAQM.TG22, as their valid data capture for the full calendar year is less than 75%. See Appendix C1: Air Quality Monitoring Data QA/QC for details.
- (6) Where the NO₂ ‘fall-off’ corrected predicted mean has been determined it is has been reported in curly brackets ‘{ }’

4.3.3.1 Areas not associated with an AQMA

It has not been possible to monitor, at all times, every community within Rhondda Cynon Taf. However, it is believed, as discussed in Section 4.3.1 that most communities have experienced relatively low NO₂ annual means, consistently over the recent past, and are likely to continue to do so. To remain vigilant to potential change, facilitate better geographical understanding of the local levels of NO₂ and provide community reassurance, the Local Authority has monitored a range of locations that are not currently associated with an AQMA.

The annual mean for NO₂ can fluctuate from one year to the next, without there necessarily being an underlying change in circumstances. As such it may be appropriate to further examine monitoring sites that have shown an NO₂ annual mean greater than 36 µgm⁻³ during the recent past. As these locations may require consideration to assess if they are at risk of experiencing an annual mean for NO₂ greater than 40 µgm⁻³. Figure 4-8 below provides time plots of the maximum levels of NO₂ monitored within each relevant community not currently associated with an AQMA, filled circles illustrate occasions where the annual mean was above 40 µgm⁻³ whereas empty circles illustrate the annual mean below 40 µgm⁻³ but above 36 µgm⁻³ and empty squares where the annual mean was below 36 µgm⁻³.

Figure 4-8: Time Plots of the maximum annual mean NO₂, from 2006 to 2025 not currently associated with an extant AQMA



As can be seen, mostly relatively low NO₂ annual means have been experienced over the recent past. In addition, none of the communities monitored are considered currently to be at risk of experiencing an annual mean for NO₂ greater than 36 µgm⁻³ and will be expected, unless circumstances were to dramatically change, to remain compliant with the annual mean AQO for NO₂ of 40 µgm⁻³, into the future.

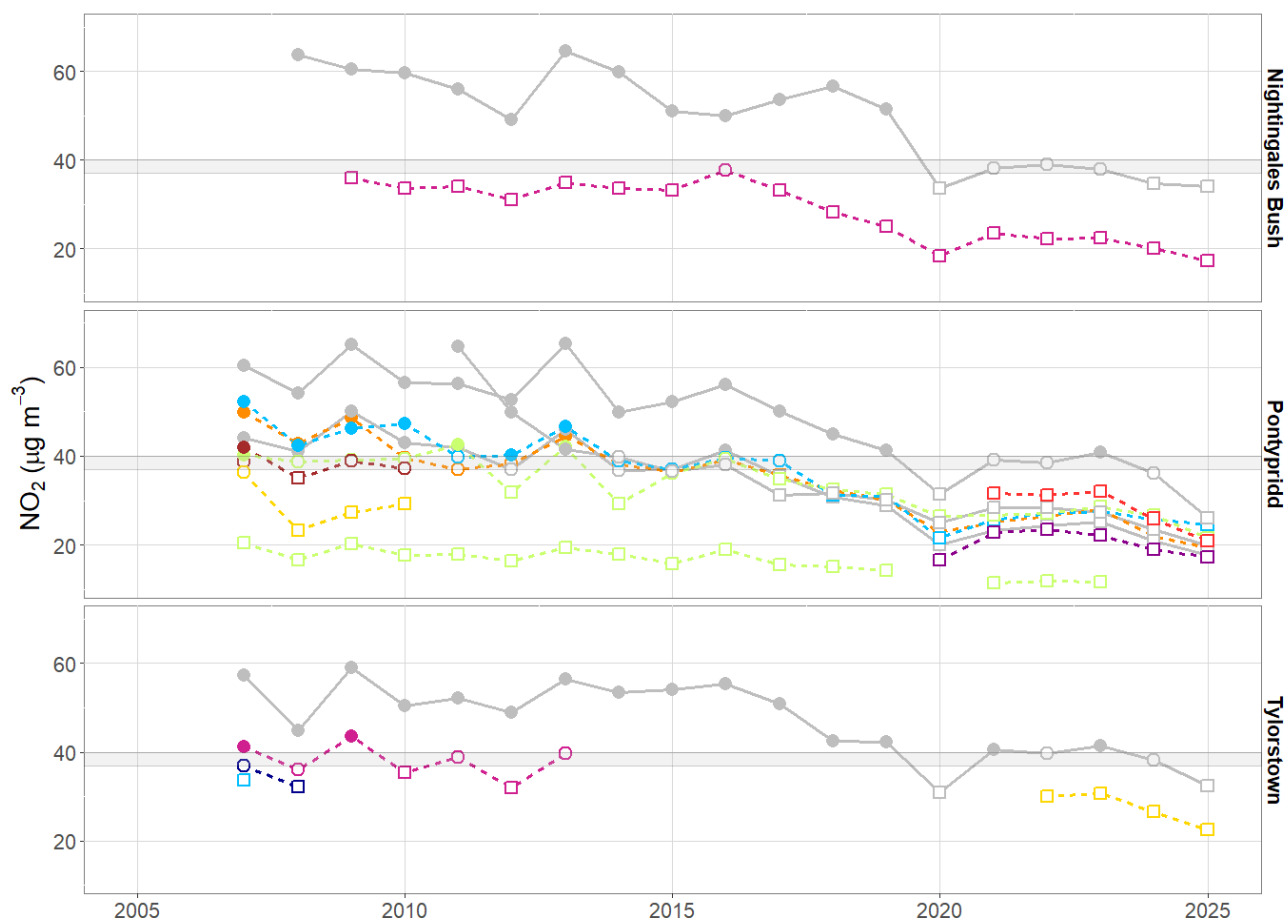
4.3.4 Areas associated with AQMAs

Currently there are six AQMAs within Rhondda Cynon Taf, all of which are in respect of breaches of AQOs for NO₂, areas previously associated with AQMAs are described in Figure 3-1. These AQMAs are of limited size, are distributed throughout the County Borough and all are significantly associated with road transport emissions, Section 3.2 provides further information on each AQMA and Appendix D1: Current AQMA Boundary Maps provides detailed maps of the AQMAs and associated monitoring locations.

As local air quality can change over time due to national, regional and local changes as well as due to the progression of targeted actions that may improve local air quality. It can be appropriate to examine existing AQMAs to ensure they remain pertinent and continue to reflect any area of non-compliance to an AQO. Where local air quality near an AQMA has or is likely to deteriorate it can be appropriate to consider amending an AQMA to increase its geographical coverage. Conversely, where sustained compliance to an AQO has been achieved within the AQMA or part thereof, it may be appropriate to reduce or even revoke the AQMA.

It is acknowledged that certain areas in proximity to some extant AQMAs may be vulnerable to elevated levels of NO₂. Not all areas adjacent to every AQMA will have a relevant population present or, even if present, they may observe markedly different characteristics which would mean elevated levels of NO₂ would be unlikely. The Nightingales Bush, Pontypridd Town Centre and Tylorstown AQMAs have potentially relevant areas proximate to them which may require continued monitoring to confirm the associated AQMA boundary so that they include all areas that may be non-compliant to the annual mean AQO for NO₂. Figure 4-9 provides time plots of the monitored annual means for NO₂ at each relevant monitoring location and collated to each AQMA; NO₂ monitoring locations denoted in grey solid lines are located within the respective AQMA, whereby monitoring locations in colour dashed lines are located in relevant areas adjacent to the respective AQMA.

Figure 4-9: Time Plots of the annual mean NO₂, from 2006 to 2025, collated to each relevant AQMA.



As can be seen, none of the monitored locations within adjacent areas to an AQMA (colour dashed lines) have observed levels of NO_2 that are above $36 \mu\text{g m}^{-3}$ during the recent past. As such these adjacent areas are expected, unless circumstances were to dramatically change, to remain compliant with the annual mean AQO for NO_2 , into the near future.

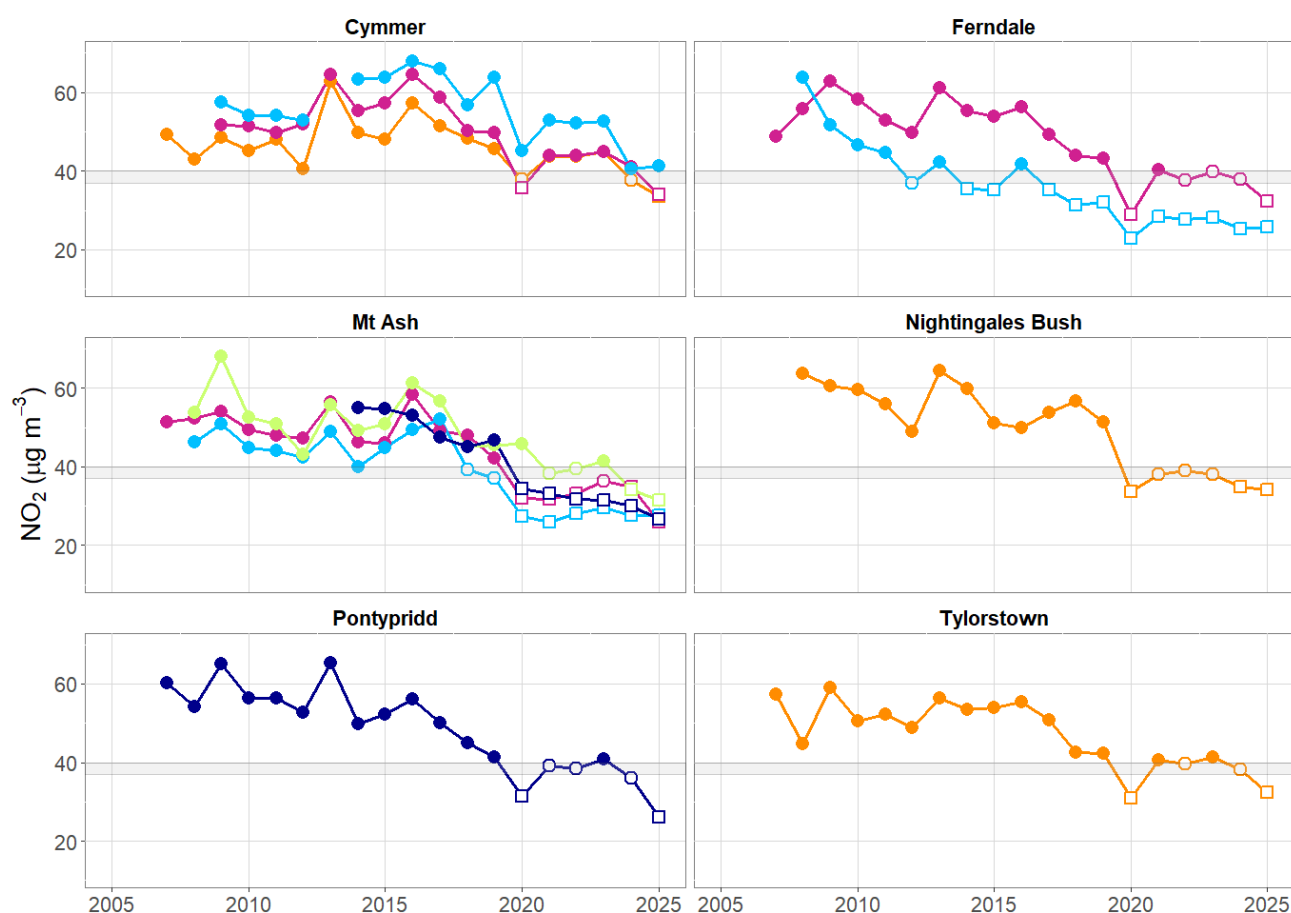
In addition to areas adjacent to an existing AQMA, it is also important to examine if sustained compliance to an AQO has been achieved within an AQMA or part thereof, as it may be appropriate to amend or even revoke the AQMA. Although an AQMA, or part thereof, may show compliance to the annual mean AQO for NO_2 in any particular year, that may not mean that this would always be sufficient justification to review the AQMA's designation. Instead, consideration must be made to the likely future sustainability of the compliance, as well as any other factors which could support maintaining the AQMA as it currently is.

To maintain an efficient approach to its local air quality management duties, initial consideration can be undertaken of available monitoring data and the examination of local trends and understanding. Where this approach identifies a need for further assessment, prior to determining any necessary changes to an AQMA, this can then be carried out accordingly.

It can be helpful to consider the previous year's monitoring results to examine the past consistency of any current improvement. However, this approach can still be influenced by

specific events, for instance COVID-19 related disruption has meant that the representative nature of some recent years of monitoring data may be difficult to determine. This may be most relevant to 2020 when socio-economic restrictions were at their height. Figure 4-10 below produces time plots of the most recent annual mean NO₂ monitoring results, at each monitoring location (colour lines), collated to each AQMA, and a dot dash horizontal grey reference bar indicating the NO₂ level between 36 µgm⁻³ and the annual mean AQO for NO₂ level at 40 µgm⁻³.

Figure 4-10: Time Plots of the annual mean NO₂ from 2006 to 2025, collated to each AQMA.



Consideration of the available monitoring data, within each AQMA, has been undertaken to examine the likelihood of current compliance or non-compliance within each AQMA, or part thereof, and has been summarised in Table 4-10 below.

Table 4-10: Screening Review of current AQMAs

Region	AQMA	Initial Assessment				Further Review
		Non-Compliant ⁽¹⁾	Possibly Non-Compliant ⁽²⁾	Probably Compliant ⁽³⁾	Compliant ⁽⁴⁾	
Rhondda	Cymmer	In Part	In Part	-	-	No
	Ferndale	-	In Part	-	In Part	No
	Tylorstown	-	In Full	-	-	No
Cynon	Mountain Ash Town Centre	-	In Part	-	In Part	No
Taf	Nightingales Bush	-	In Full	-	-	No
	Pontypridd Town Centre	-	In Full	-	-	No

Table Notes

- (1) “Compliant” means the monitoring locations annual mean for NO₂ was less than 36 µgm⁻³ in all the most recent three years and less than 40 µgm⁻³ in all the most recent five years, and the monitored five year trend in NO₂ is not significantly increasing;
- (2) “Probably Compliant” means the monitoring locations annual mean was less than 36 µgm⁻³ in all the most recent three years, excluding 2020.
- (3) “Possibly Non-Compliant” means the monitoring locations annual mean greater than 36 µgm⁻³ in at least one of the most recent three years;
- (4) “Non-Compliant” means the monitoring locations annual mean was 40 µgm⁻³ or greater in 2025.

As observed in Figure 4-10 above and further illustrated in Appendix D2, all the current AQMAs in Rhondda Cynon Taf observe, to varying degrees, a notable medium-term reducing trend in the monitored levels of NO₂. Although COVID-19 related disruption may have disproportionately emphasised this, it is apparent that a locally downward trend in NO₂ was well established before 2020. Given understanding of the recent past as well as current national policy interventions, it is expected that, in the near-term, the trend in NO₂ within each AQMA will continue to reduce incrementally to some extent.

When considering if there is a need to further assess an AQMA, it is not only necessary to consider available monitoring data, which can inherently reflect the past, but also to consider likely future national, regional and local circumstances. As discussed in Section 4.3.1, at the national and regional scale, the levels of NO₂ are expected, in the medium to longer-term, to decrease as wide-scale policy interventions, regional public transport improvements and road vehicle fleet modernisation takes effect. In respect of new local developments, none of the AQMAs are expected to experience a substantive change in local circumstance that could be expected to significantly influence current understanding of them.

Figure 4-10 above indicates that the Ferndale and Mountain Ash Town Centre Town Centre AQMAs may contain relevant areas within them⁸ that may now be compliant with the annual mean AQO for NO₂.

In respect of Ferndale AQMA, the area in compliance is associated with a monitoring location, Site No.107 (Ferndale), which is located within the southern half of the AQMA. The Ferndale AQMA is geographically confined within part of a single street that is within a suburban environment that appears reasonably homogenous. The northern half of the AQMA has both significantly more part commercial premises and a greater occurrence of road traffic congestion, due to localised highway infrastructure and available carriageway variation. The boundary of these local structural variations and the likely associated boundary of possible non-compliance to the annual mean AQO for NO₂ would be challenging to definitively set. To ensure a precautionary approach, it is considered that the current boundary of the Ferndale AQMA, even though it will retain an area of compliance, remains a pragmatic designation. As such it is not considered appropriate, at this time, to reduce the geographical extent of the Ferndale AQMA.

In respect of Mountain Ash Town Centre AQMA, the area in long-term compliance is associated with a monitoring locations Site No. 96 (Mt Ash), which is located within the western half of the AQMA. The western half of the Mountain Ash Town Centre AQMA, which incorporates the single road known as Oxford St, observes a number of specific characteristics that differentiates itself from its eastern half, which incorporates New Rd, albeit both are connected by a semi-shared local highway network. Oxford St, is within a suburban environment that appears reasonably homogenous and includes a number of part commercial premises. The street has, in parts, a narrow width and likely observes a street-canyon effect due to abutting terraced buildings. Oxford St also observes an incline at its northern half which leads to a traffic-lights managed junction. It is understood the combination of traffic volume, inclined road, likely street-canyon effect and inherent road traffic congestion associated with its northern junction, are all significant factors influencing the observed levels of NO₂. Given the difficulty in delineating the area of probable compliance within the western half of the AQMA, it is considered that the current boundary of the Mountain Ash Town Centre AQMA, even though it will retain an area of compliance, remains a pragmatic designation. In any event, given the current regionally improving trend in NO₂ it may be possible that the entire western half of the AQMA will be reviewed in the medium-term. As such it is not considered appropriate at this time to reduce the geographical extent of the Mountain Ash Town Centre AQMA.

At this time it is also not considered necessary to undertake a further review of Cymmer, Tylorstown, Nightingales Bush and Pontypridd Town Centre AQMAs as they continue to demonstrate either non-compliance or a risk of non-compliance to the annual mean AQO for NO₂ in the short-term and in respect of the Cymmer AQMA potentially the longer-term, unless future targeted improvement actions have a desired effect. Nonetheless, all the AQMAs continue to show either a local improving or at least stabilising near-term trend in NO₂.

⁸ that were not otherwise included for administrative purposes

4.3.5 Particulate Matter [PM₁₀]

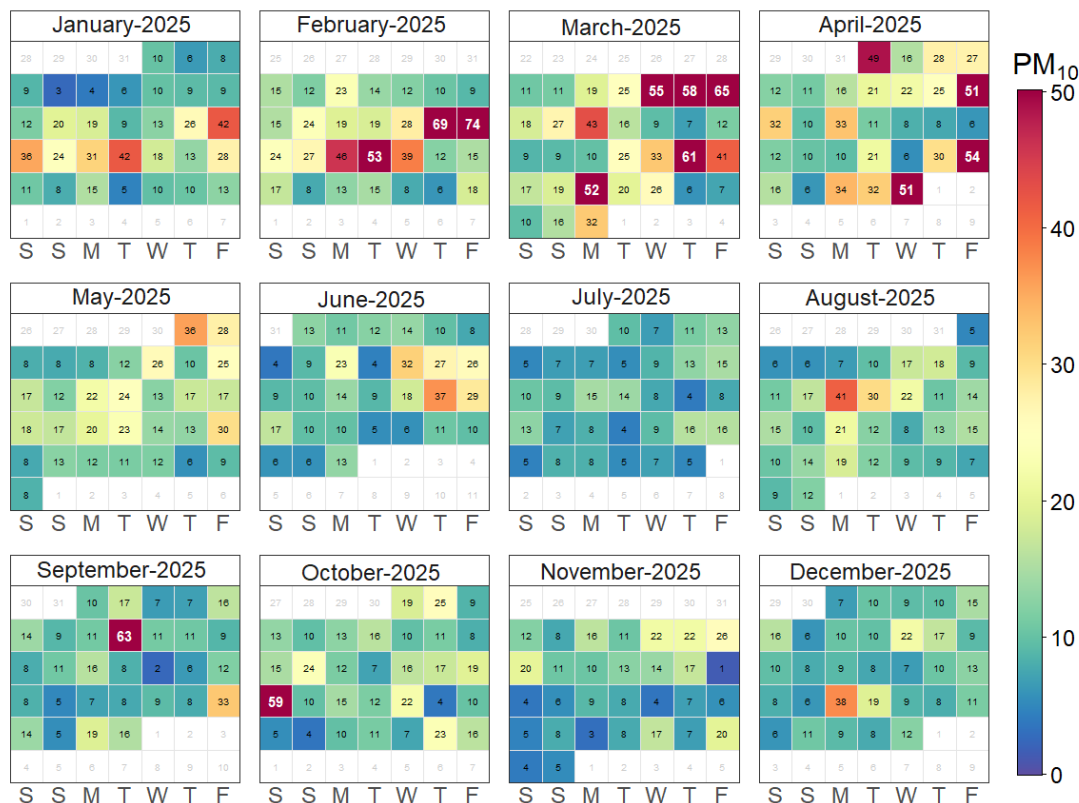
It has been reported [9] that, based upon modelled assessment, the South Wales Non-agglomeration Zone, which includes Rhondda Cynon Taf, is compliant with both the annual mean UK Limit Value for PM₁₀ and the 24-hour daily mean UK Limit Value for PM₁₀. It has also been reported [11] that Rhondda Cynon Taf, in comparison with other Welsh local authority areas, has been ranked⁹ (lower the better) 3rd out of 5 for PM₁₀.

The Local Authority undertook PM₁₀ monitoring, in simultaneous combination with PM_{2.5} monitoring, within Glyncoch at Site No. 130 (Upper Garth Avenue). Glyncoch is a suburban community, within the Taf Valley, which is in close proximity to the active Craig Yr Hesg Quarry. Craig Yr Hesg Quarry is a Pennant Sandstone mineral extraction activity primarily making use of fixed plant within a 36.7 hectare site and has been in operation for a number of years. Given the nature, size and geographical position of Craig Yr Hesg Quarry it is expected to have a material effect on locally observed levels of particulate matter. Apart from variation in the production level and occasional ad hoc short-term temporary pausing of works at Craig Yr Hesg Quarry, it is believed that during 2025, Glyncoch was not subject to any unexpected influences derived from a significant change in local circumstance or a locally transient specific event. To consider the 2025 results, Figure 4-11 provides a calendar plot identifying the 24-hour daily means of PM₁₀ in 2025 at Site No. 130 (Upper Garth Avenue).

⁹ Although there are currently twenty-two Local Authorities in Wales, some may be ranked equally

Figure 4-11: Calendar Plot of the 24-hour daily means of PM₁₀ at Site No. 130 (Upper Garth Avenue) in 2025

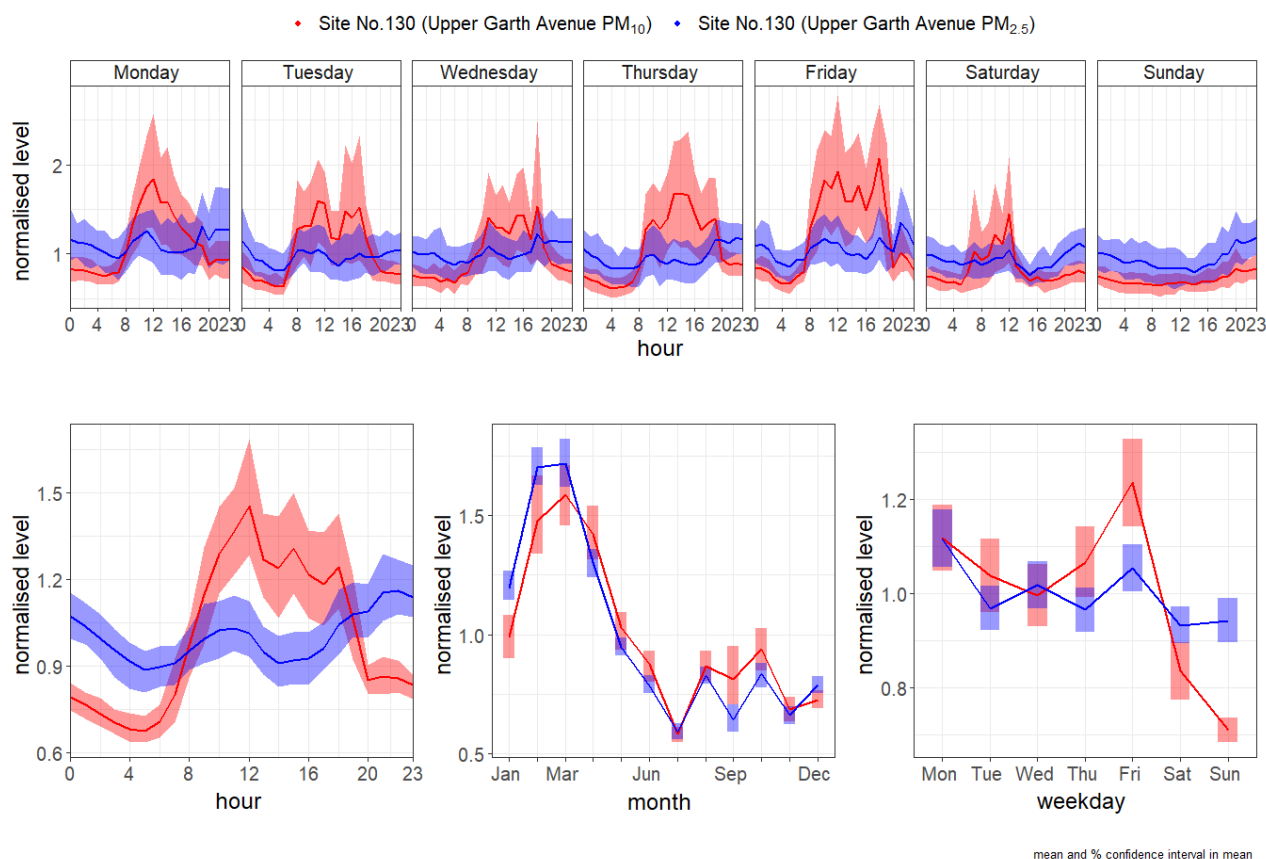
Site No. 130 (Upper Garth Avenue FIDAS)



The calendar plot illustrates that, in general, occasions of elevated PM₁₀ levels at Site No. 130 (Upper Garth Avenue) were relatively infrequent during 2025. Nonetheless, it also suggests that occasional elevated levels of PM₁₀ can be experienced, often appearing to be clustered to several consecutive days at a time, as evident in February and March.

As Particulate Matter can be influenced in a number of ways, it can also be useful to consider the relationship of PM₁₀ to itself and PM_{2.5}. Figure 4-12 provides time variation plots of the normalised PM₁₀ (red) and PM_{2.5} (blue) at Site No. 130 (Upper Garth Avenue) in 2025.

Figure 4-12: Time Variation Plot of PM₁₀ and PM_{2.5} measured at Site No. 130 (Upper Garth Avenue) in 2025.

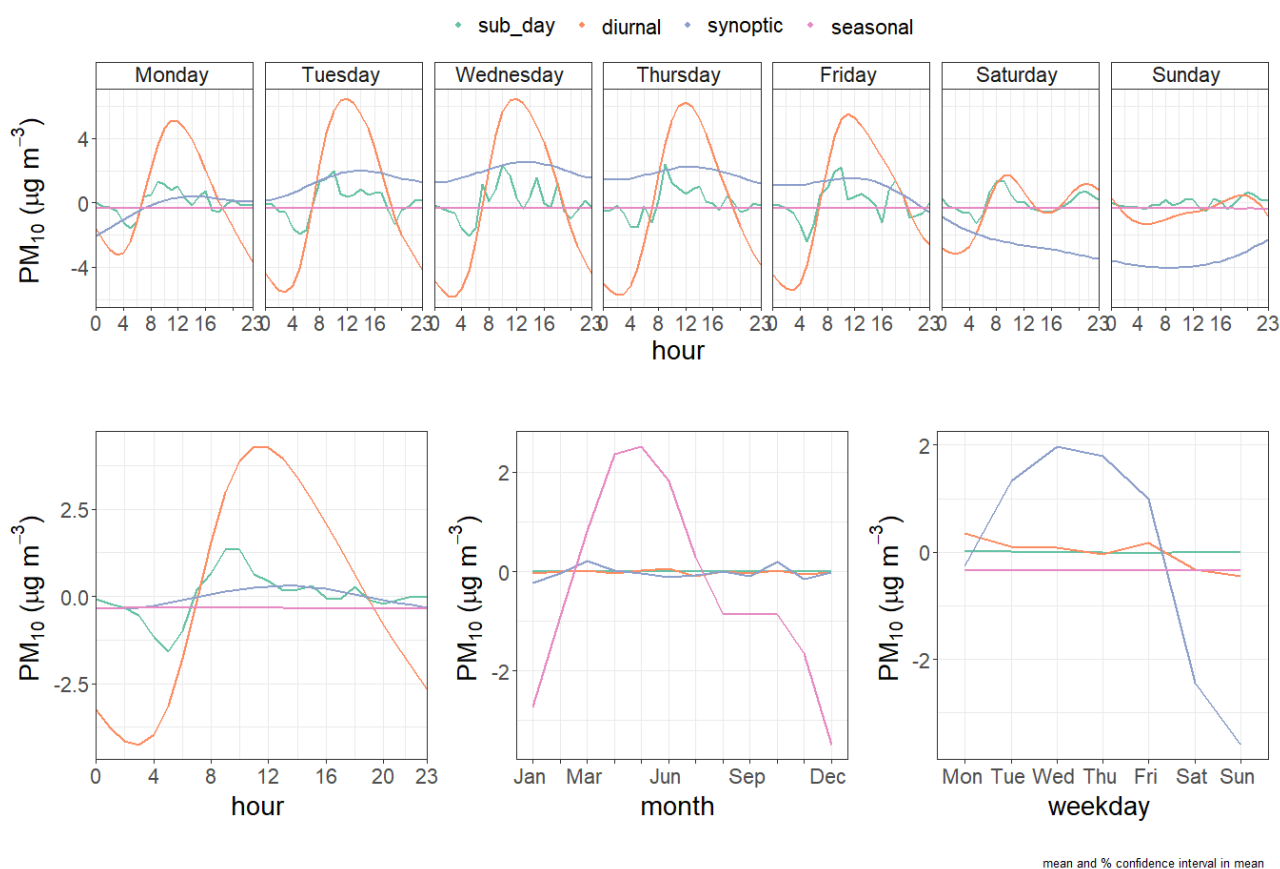


Site No. 130 (Upper Garth Avenue) demonstrates consistently elevated levels of PM₁₀ (red line) during Monday to Friday and Saturday morning, with noticeable reductions in the levels of PM₁₀ during the remainder of the weekend. PM₁₀ levels are most elevated between 7 am to 6 pm other than Saturday when the most elevated levels are limited to 7 am to 12 pm and Sunday where no significantly discernible pattern is evident. These patterns of elevated levels of PM₁₀ illustrate both a consistently strong diurnal (daytime – nighttime change) and hebdomadal (throughout the week) relationship. However, PM₁₀ data from 2025 appears to show no specific biannual relationship, with PM₁₀ results for the year peaking during the spring of 2025.

The PM₁₀ daily and weekday patterns appear partially unrelated to PM_{2.5} (blue line), although, there appears to be more obvious correlation between the monthly change in PM₁₀ and PM_{2.5}. Overall, the degree of correlation between PM₁₀ and PM_{2.5} during 2025 has been estimated at $r = 0.70$, which suggests both a moderate degree of correlation (which may not be surprising considering PM₁₀ will comprise, to some degree, of PM_{2.5}), most clearly observed at nighttime and weekends, but also a noticeable level of independence. This is most clearly observed when PM₁₀ levels become elevated during the week-day day, whereas PM_{2.5} show less of a relative increase during the day but does appear to show a more pronounced increase in the evenings. This could indicate that the two pollutants may share the same or similar sources to a varying extent at certain times, but also may be arising, in different ways, whilst also still being potentially affected by shared influences, such as seasonal environmental changes.

These temporal relationships can be further illustrated by undertaking a 'Kolmogorov-Zurbenko Filter' of the PM₁₀ data since 2014, provided in Figure 4-13 below. The 'KZ Filter' is an iterative moving-average technique that separates a time series into components, allowing the consideration of each time component as it reflects on the whole. As can be seen in the below plots, a very strong diurnal emphasis is observed which is in keeping with the above analysis. As is the synoptic (approximate week) change, indicating rising levels of PM₁₀ through the week, followed by significant drop-off at the weekend. Whilst the seasonal influence appears less consistent or predictable, potentially emphasising springtime as being more associated to elevated levels of PM₁₀, in comparison to other times of the year.

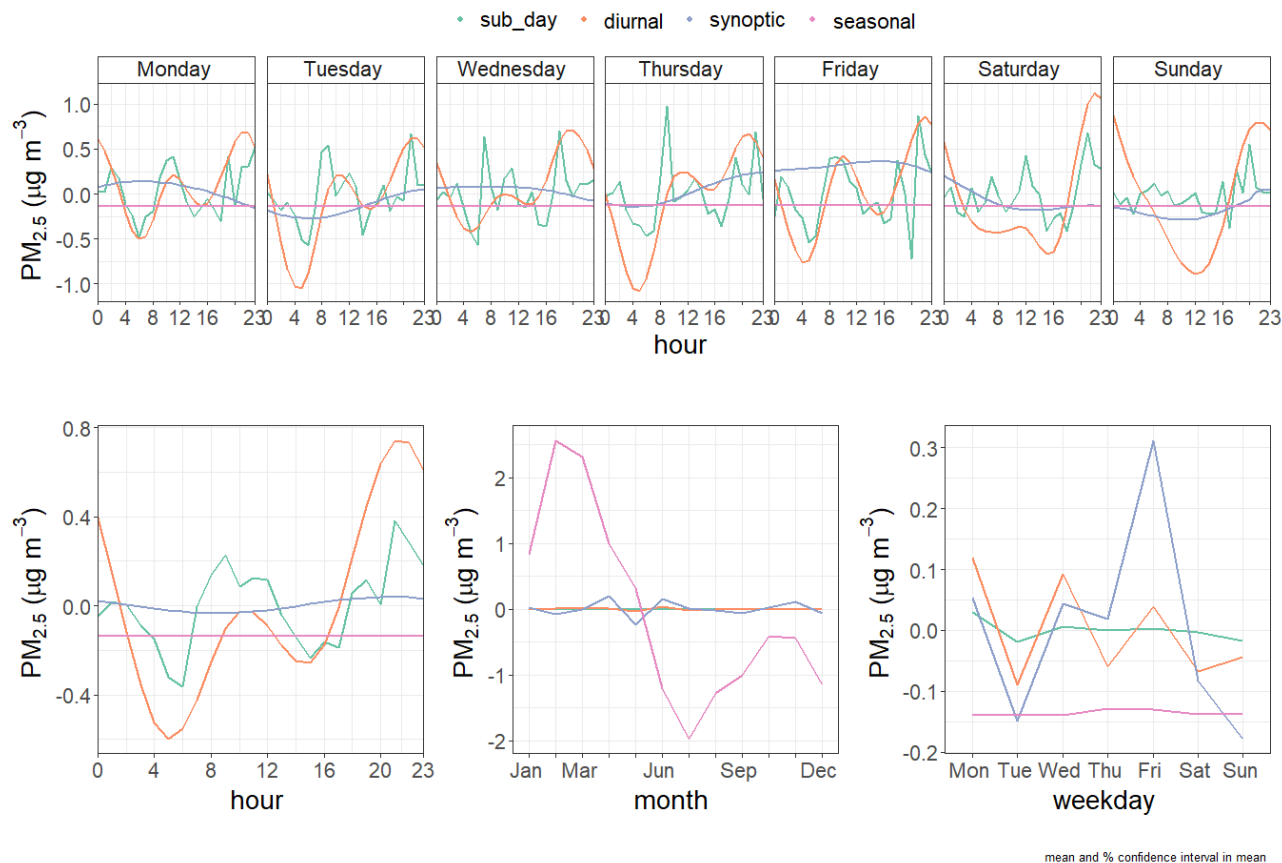
Figure 4-13: Time Variation Plot with 'KZ Filter' of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) from 2014 to 2025.



Using the same 'KZ Filter' on the PM_{2.5} data gathered at Site No. 130 (Upper Garth Avenue), reproduced in

Figure 4-14 below, the strongly identifiable patterns observed in the above PM₁₀ data may be less evident. It is possible to observe a diurnal pattern that, unlike PM₁₀, has shifted to some extent to the evening. Any weekday pattern appears more oscillating but there maybe a greater possibility of a biannual effect. Again, in contrast, the seasonally elevated levels of PM_{2.5} appear more aligned to the wintertime as opposed to springtime.

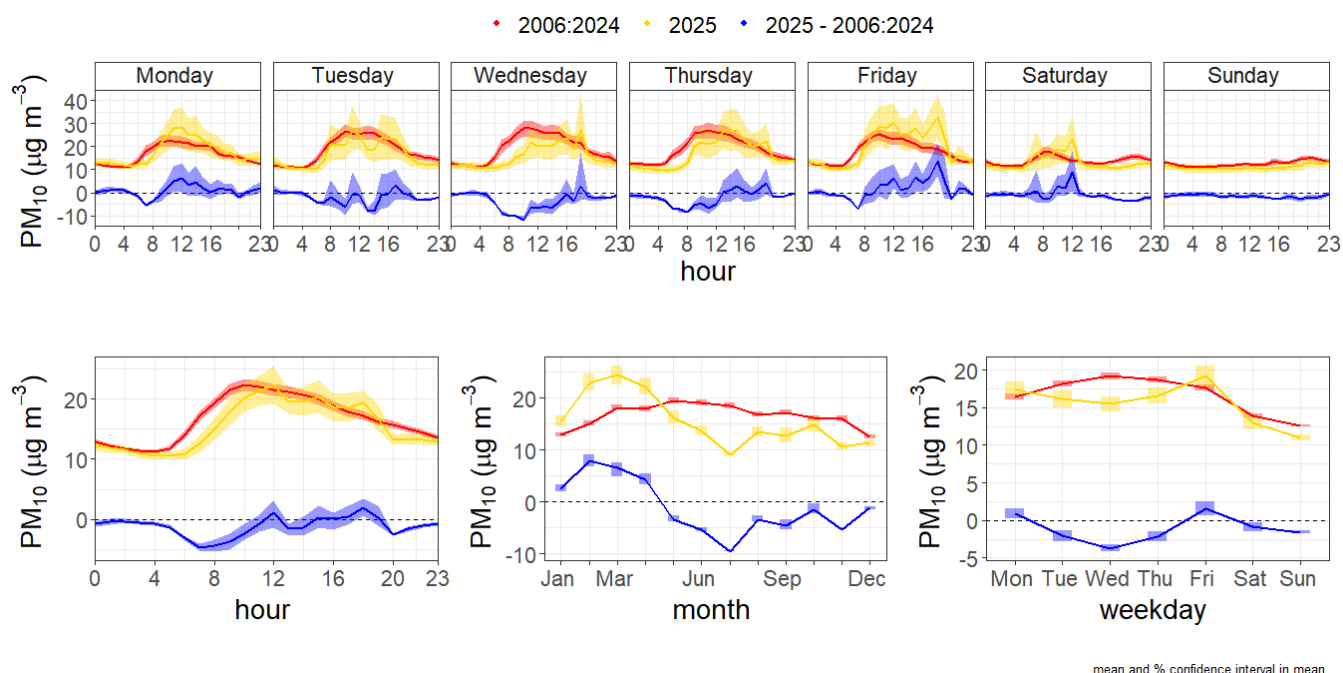
Figure 4-14: Time Variation Plot with 'KZ Filter' of PM_{2.5} measured at Site No. 130 (Upper Garth Avenue) from 2024 to 2025.



It is also possible to compare the latest PM₁₀ monitoring data with the historic average.

Figure 4-15 provides time variation plots of the 2025 PM₁₀ monitoring results (gold), the historic aggregated results from 2014 to 2024 (red) and the difference in comparison (blue).

Figure 4-15: Time Variation Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) in 2014 to 2024 and 2025.

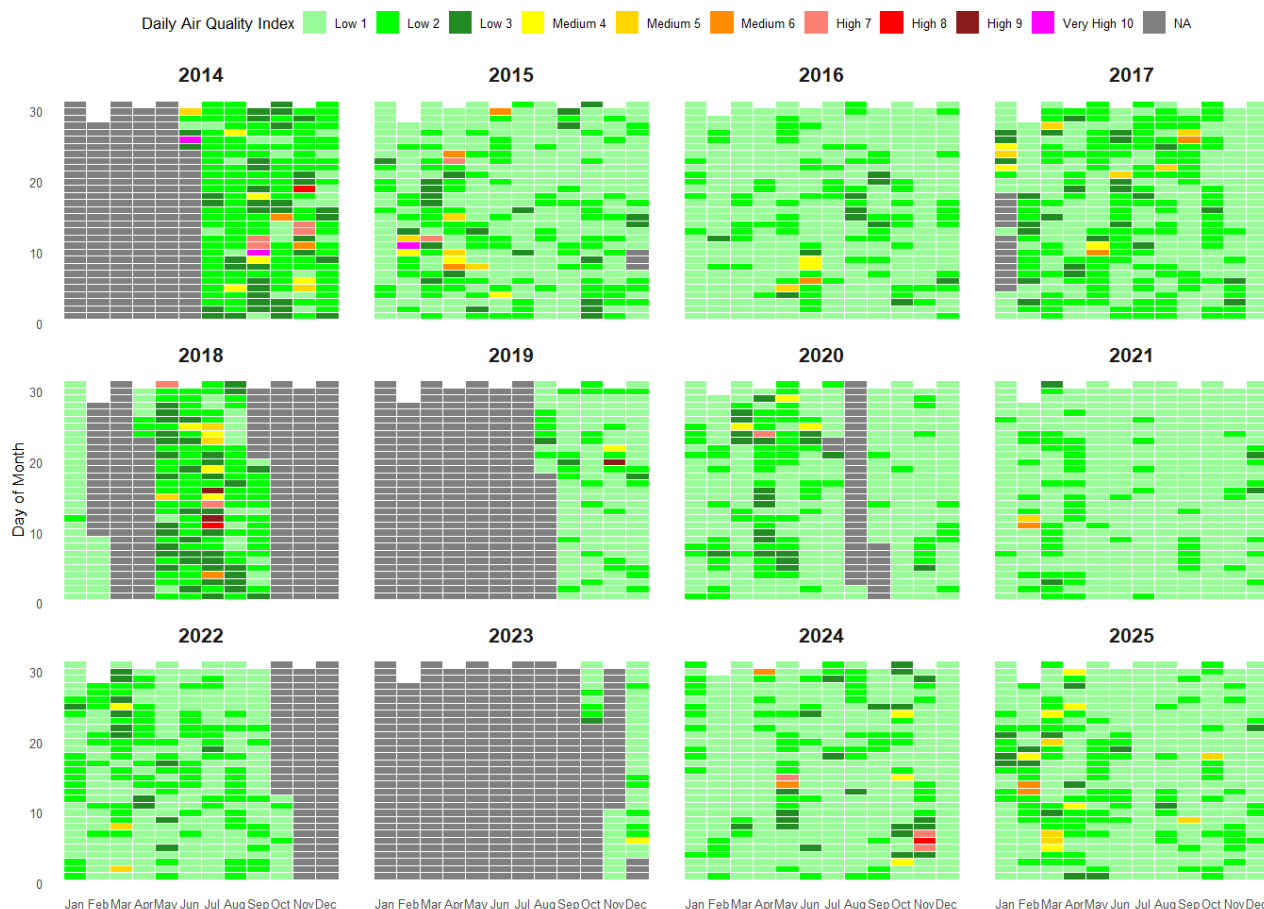


The 2025 and historic PM₁₀ results show some consistency across both the hour of the day and day of the week, although it also shows noticeable differences in comparison with month of the year. This pattern may be in keeping with the understanding of relatively consistent sources of PM₁₀ being affected by variable environmental factors that may change from one year to the next. It is also apparent that the levels of PM₁₀ appeared to have overall reduced by $\sim 1.1 \mu\text{g m}^{-3}$ (6.6%) in 2025 when compared to previous years.

Nationally levels of PM₁₀ have been persistently declining in the long-term, despite a period of stability between 2015 and 2019, with “Concentrations in 2025 were ... the lowest recorded [at qualifying national monitoring locations]” [18]. It is also recognised that weather conditions, both locally and more widely, can be highly influential in the levels of PM₁₀ locally observed.

The trend level plot of the Daily Air Quality Index [15] of PM₁₀ at Site No. 130 (Upper Garth Avenue) produced in Figure 4-16 below, is a useful way of examining the temporal relationship of PM₁₀ over each year between 2014 and 2025. The trend level plot does show some year to year variation, possibly as a result of cyclical climatic affects. These cyclical climatic effects can often result in some years being more or less prone to elevated levels of PM₁₀ when compared to the longer-term average, even where the underlying sources of PM₁₀ may remain consistent or are only changing incrementally.

Figure 4-16: Trend Level Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) from 2014 to 2025.



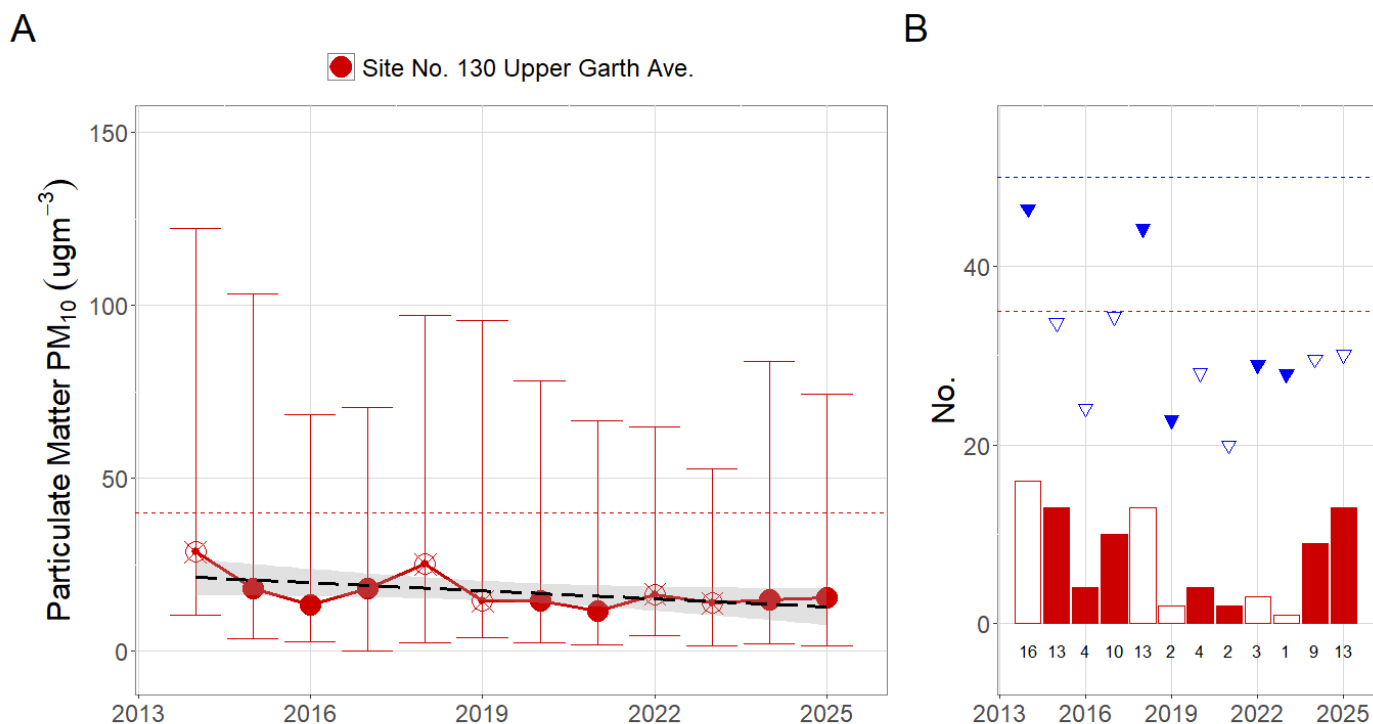
In considering the recent levels of PM₁₀ at Glyncoch it can be useful to have regard to the local PM₁₀ trend, however, it should be noted that the assessment of local PM₁₀ trends can be fickle, due to the multitude of influences that can impact upon observed PM₁₀, and ideally effective analysis requires long duration data sets. Figure 4-17 below produces time plots of Site No. 130 (Upper Garth Avenue). Plot A displays the PM₁₀ annual mean (solid red line with solid dots (when the corresponding data capture is 75% or greater) or empty dots (when the corresponding data capture is less than 75%)), the associated straight-fit trendline¹⁰ (dashed black line and associated grey shaded area), the intra-year 24-hour daily mean spread (red vertical bars and whiskers) and a reference line corresponding to the annual mean AQO for PM₁₀ of 40 µgm⁻³ (dashed red line).

Plot B displays a 'bar and points' plot, showing the number of occasions the daily mean was greater than 50 µgm⁻³ (the red filled bars when the corresponding capture was 85% or greater and outlined bars when the corresponding capture is less than 85%) and the 90.4th Percentile of 24-hour daily means (filled blue triangles when the corresponding capture is less than 85% and outlined triangles when the corresponding capture was 85% or greater), with a reference line corresponding to the 24-hour daily mean AQO for PM₁₀ of no more than 35 times in a

¹⁰ produced by Local Polynomial Regression Fitting with α of 0.5

year (dashed red line) and a reference line corresponding to the 90.4th percentile of the 24-hour daily mean AQO for PM₁₀ (dashed blue line).

Figure 4-17: Time Plot of the annual mean PM₁₀ and Bar Plot of the number of occasions the daily mean was greater than 50 µgm⁻³ from 2014 to 2025 at Site No. 130 (Upper Garth Avenue).



It is apparent from the above that Site No. 130 (Upper Garth Avenue) continues to experience an undulating annual mean (red line in Plot A), subject to a degree of oscillation (daily mean range of 4.5 µgm⁻³, 31% relative to the mean, over the most recent five-year period) around a relatively consistent long-term average (shaded grey area in Plot A). Over the extended period a moderately improving trend may be apparent (2014 to 2025 suggests a -2.2% downward trend), however, more recently, since 2021, it is possible the trend has stabilised. Historically, it is also apparent that the 24-hour daily mean spreads (the red whiskers in Plot A) can be subject to some year-to-year change, with 2025 showing similar variation in comparison with 2024.

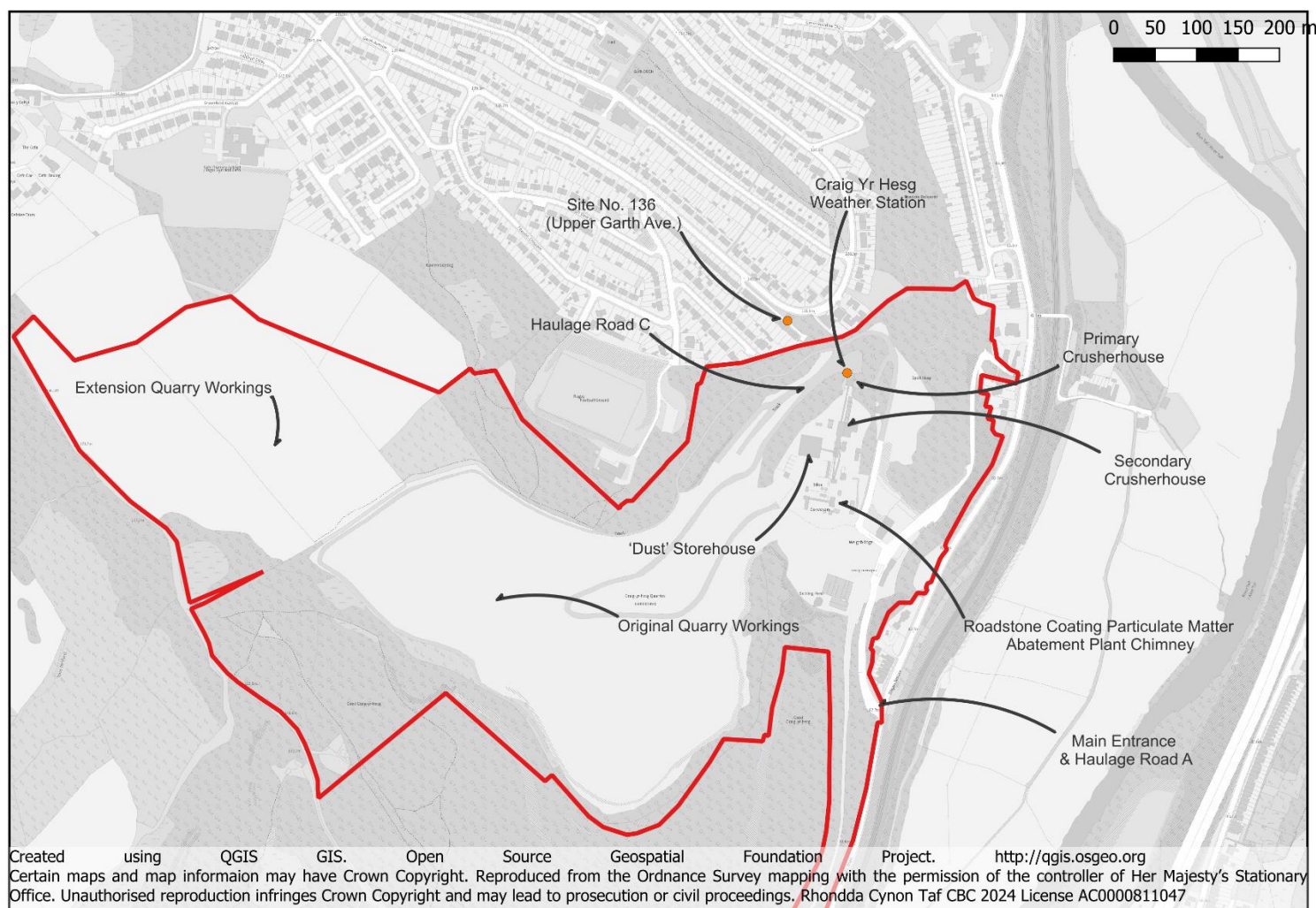
The number of occasions the 24-hour daily mean AQO for PM₁₀ is greater than 50 µgm⁻³ (Plot B) has potentially increased in comparison to the recent past. However, this may be overly emphasised by lower data capture associated with the preceding couple of years, as the 90.4th percentile (blue triangles) are possibly more consistent from one year to the next.

The PM₁₀ results from 2025, in alignment with the past, continues to indicate that Site No. 130 (Upper Garth Avenue) is likely to be compliant to both the annual mean and the 24-hour daily mean AQOs for PM₁₀.

Given the predicted general background PM₁₀ at Site No. 130 (Upper Garth Avenue) in 2025 was estimated as 10.7 µgm⁻³ and the actual measured level of PM₁₀ was 15.6 µgm⁻³ (46%

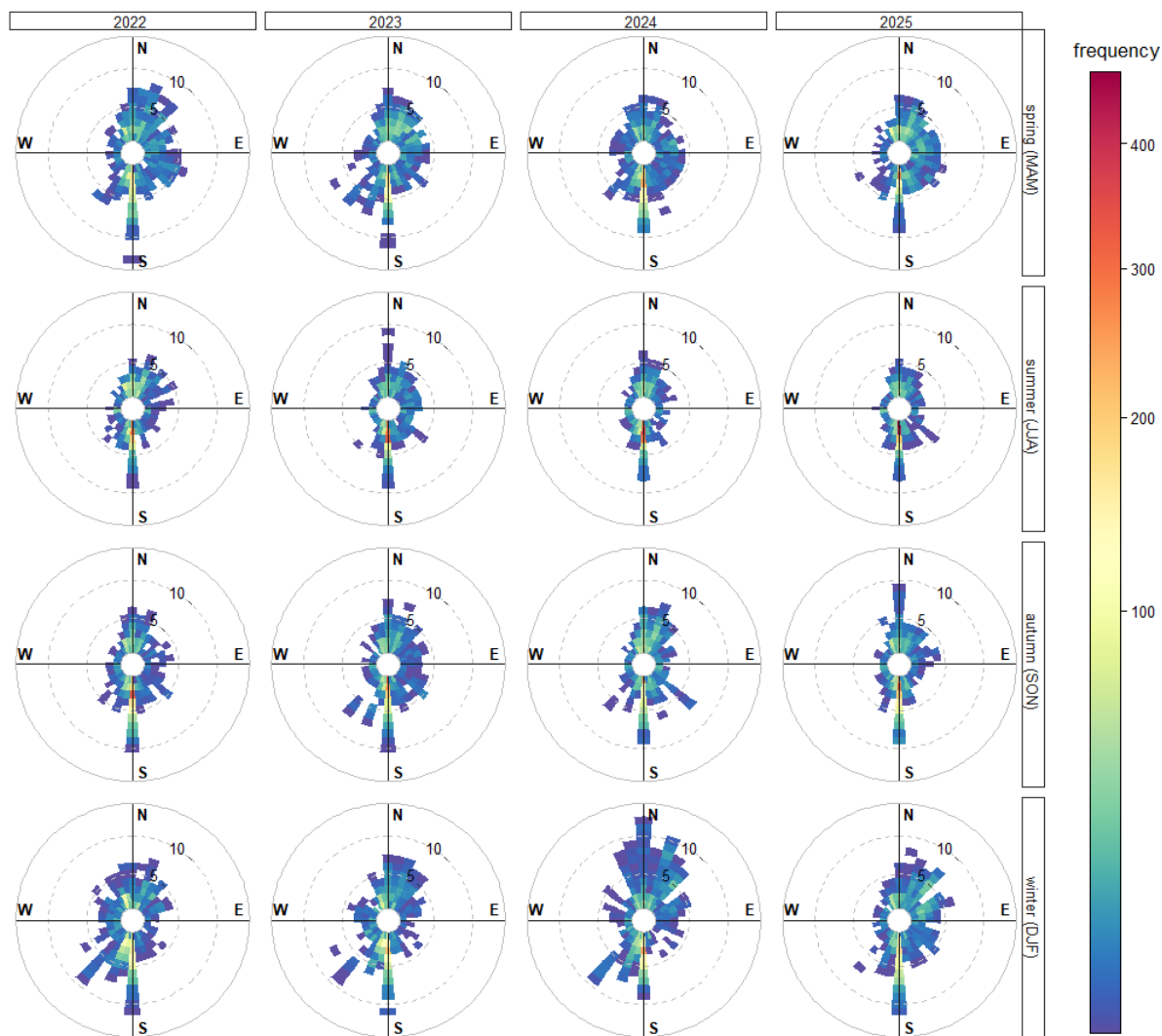
higher), it is expected that local influences, including potential sources of particulate matter from various activities at Craig Yr Hesg Quarry, may have particular relevance to the levels of PM₁₀ experienced at Site No. 130 (Upper Garth Avenue). For reference, Figure 4-18 below provides an annotated map of the local environment and points of potential interest.

Figure 4-18: Map of Glyncoch annotated with points of potential interest



To assist with the consideration of the PM₁₀ monitoring data, it has been possible to obtain local weather monitoring data from the Craig Yr Hesg Quarry Weather Station, located at the primary crusher production building at Craig Yr Hesg Quarry, Glyncoch and considered likely to be reflective of local weather conditions. Figure 4-19 provides a series of Polar Frequency Plots, utilising 10-minute averaged data for the last four years and split by season, at the Craig Yr Hesg Quarry Weather Station.

Figure 4-19: Polar Frequency Plots of wind speed and direction from 2022 to 2025 and split by year and season, at the Craig Yr Hesg Quarry Weather Station



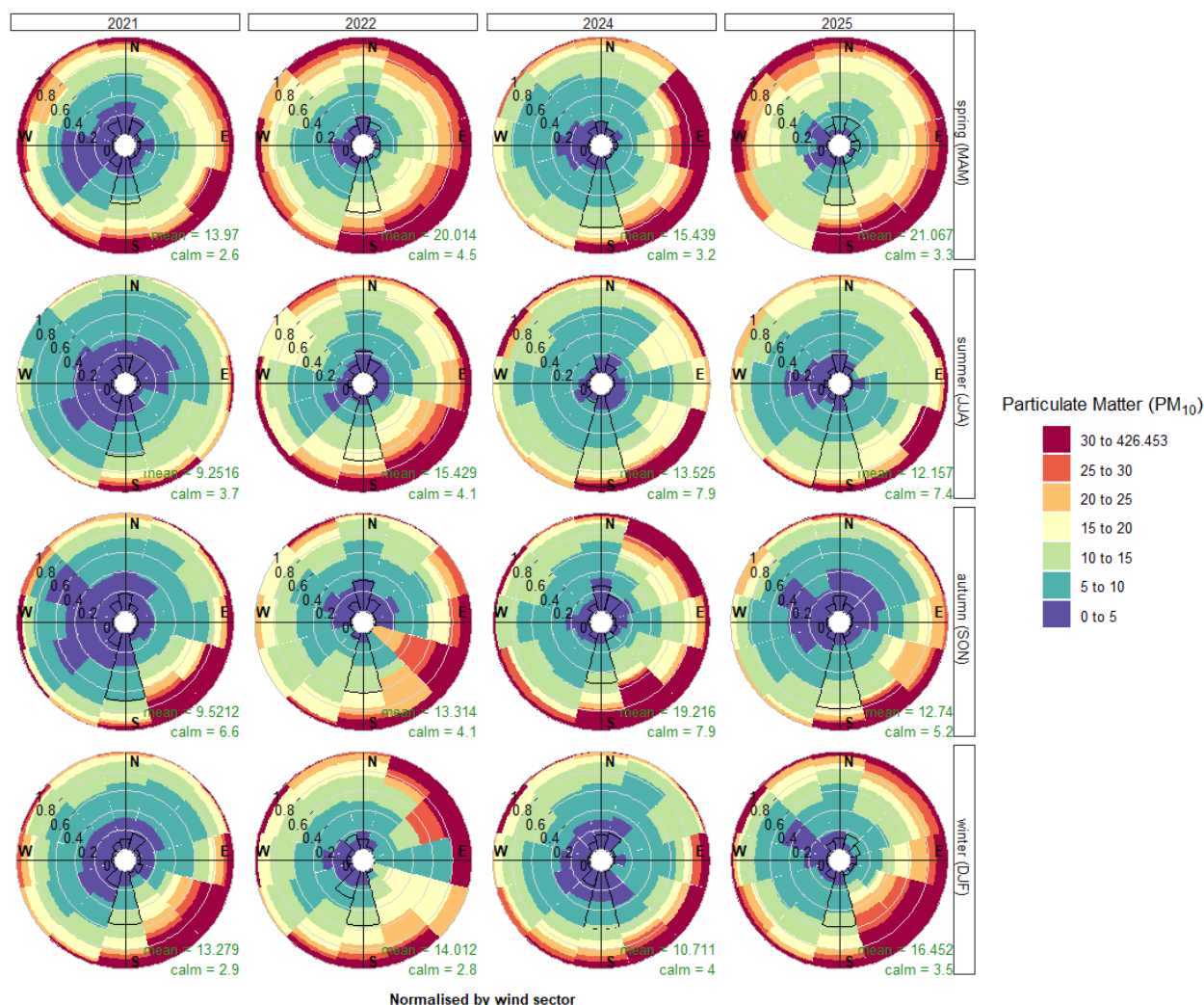
It can be observed that the location is consistently predominated by relatively slow to moderate strength winds from the south. The observed predominant wind direction is consistent with an understanding of regionally predominant southwest winds adjusting to the locally defining north-south Taf Valley topography and with Glyncoch being on the western side of the valley. There is also a smaller yet discernible counter influence of slow to occasionally moderate strength winds from the north, which again aligns with the above noted topographical influences.

To a lesser extent, it is likely the urban and elevated areas to the west of Site No. 130 reduce the frequency and speed of westerly winds, where the more open urban area and lower elevation to the east is possibly more conducive to an easterly wind. The wind distribution appears reasonably stable throughout the seasons across the four year period, albeit a more

subdued wind pattern is observed in the summer, as expected given regional weather patterns.

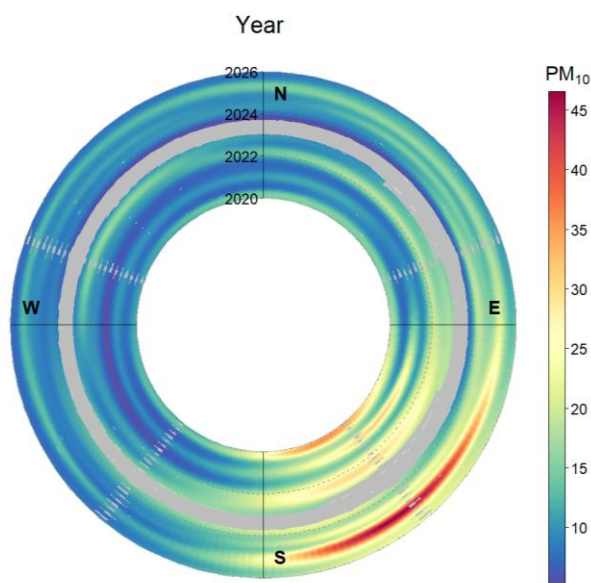
To consider the importance of local weather conditions upon PM₁₀ levels monitored at Site No. 130 (Upper Garth Avenue). It is possible to consider the relationship between the observed levels of PM₁₀ and local wind direction. Figure 4-20 provides normalised pollution rose plots, split by season, from 2021 to 2025 at Site No. 130 (Upper Garth Avenue), 2023 data has not been illustrated due to the small data set available for that year.

Figure 4-20: Pollution Rose Plot, by season and normalised, of PM₁₀ measured at Site No. 130 (Upper Garth Avenue TEOM FDMS) in 2021, 2022, 2024 and 2025



The normalised plot helps to illustrate that wind directions from the southwest through south to southeast and east show a significant relationship with observed higher levels of PM₁₀ (the depth and intensity of red of each segment). This pattern has been moderately consistent for several years and is apparent, to varying extent, through all seasons. To further illustrate the directional relationship of PM₁₀ and its consistency over time at Site No. 130 (Upper Garth Avenue), Figure 4-21 provides a polar annulus plot of PM₁₀ levels since 2020.

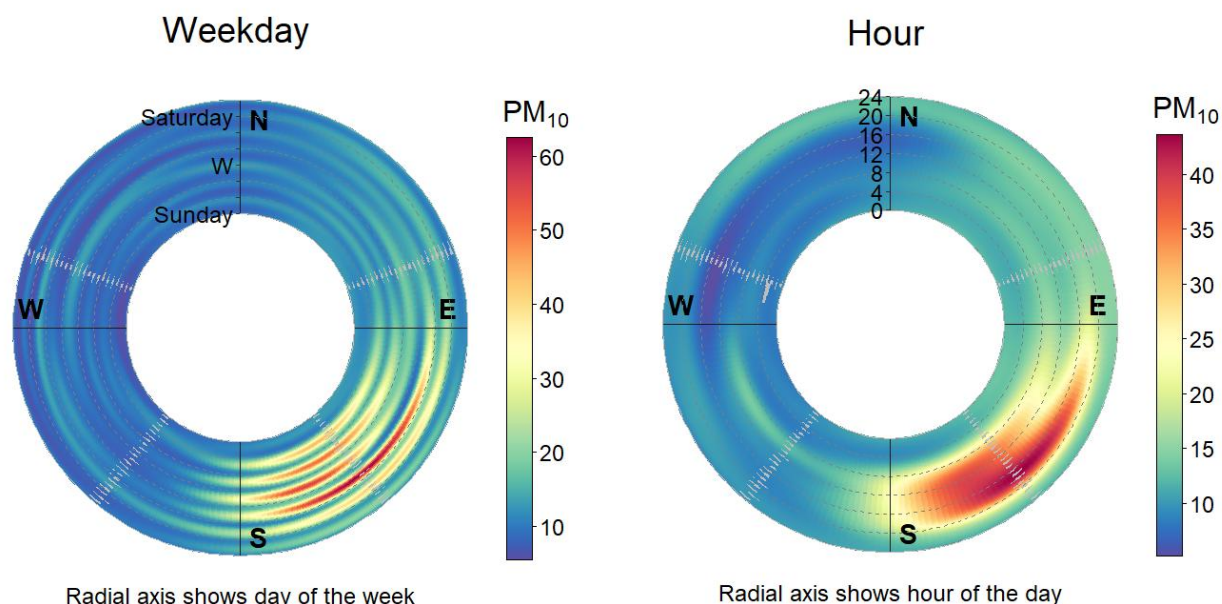
Figure 4-21: Polar Annulus Plot, of PM₁₀ measured at Site No. 130 (Upper Garth Avenue TEOM FDMS) from 2020 to 2025.



Although the levels of PM₁₀ may fluctuate, it appears consistently highest (intensity of red hue) when in association with a south-east wind direction, coinciding with the direction of the primary crusher of Craig Yr Hesg Quarry. It is also notable that easterly and southerly winds may also exert an, albeit less, influence (yellow hue). To further examine directional relationship,

Figure 4-22 provides polar annulus plots of PM₁₀ levels, since 2020, aggregated to day of the week and hour of the day.

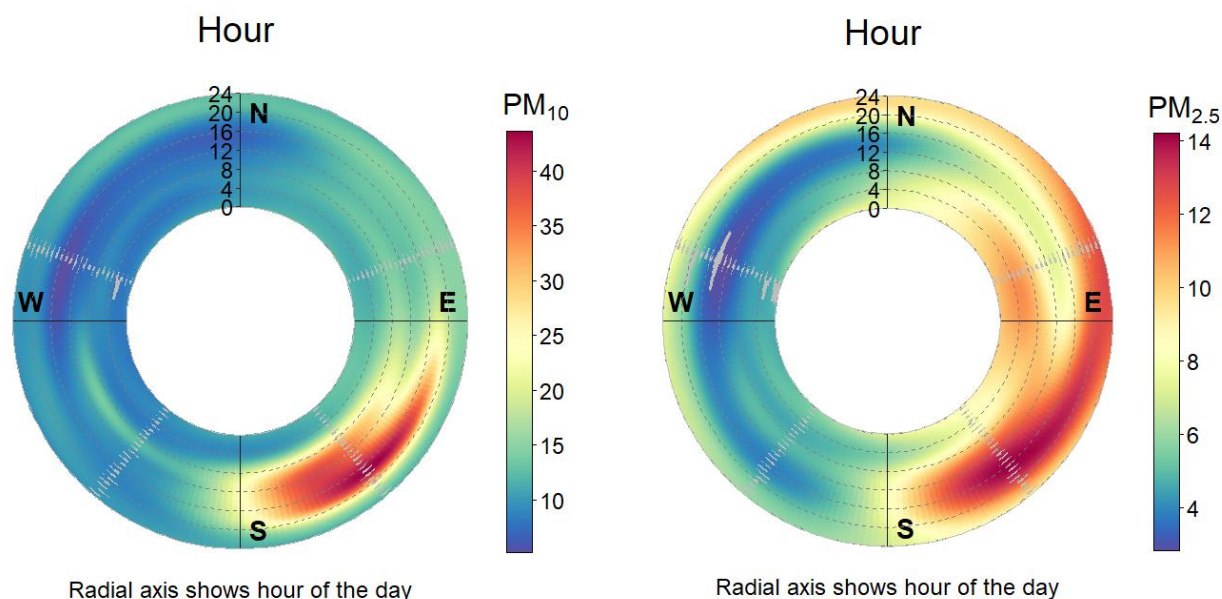
Figure 4-22: Polar Annulus Plots, of PM_{10} measured at Site No. 130 (Upper Garth Avenue TEOM FDMS) from 2020 to 2025 aggregated to day of week (left plot) and hour of day (right plot).



As expected, the above plots reaffirm the same southeast to south wind direction relationship, however, it is striking how strongly that this relationship is associated to weekdays and between the hours of ~7am to ~7pm. Although, both these manifestations have been illustrated in the above discussion of the time variation plots for Site No. 130. It is evident that, outside of these time periods, the association to a specific wind-direction diminishes and instead a more broad influence from a northeast to southeast arc can be observed. This could be attributable to general activity associated to the larger urban area to the north and east, that is likely to either be associated with local residential activity or to regional transport activity that continues largely irrespective of time.

Considering the relationship between PM_{10} and $PM_{2.5}$ can further assist understanding the importance of potential sources that may be both shared between these pollutants or more independent of each other. Figure 4-23 provides a comparison, in the same format as used above, of the 2025 results for PM_{10} and $PM_{2.5}$.

Figure 4-23: Polar Annulus Plots, by hour of day, of PM₁₀ (left) and PM_{2.5} (right) measured at Site No. 130 (Upper Garth Avenue TEOM FDMS) between 2020 (2024 for PM_{2.5}) and 2025

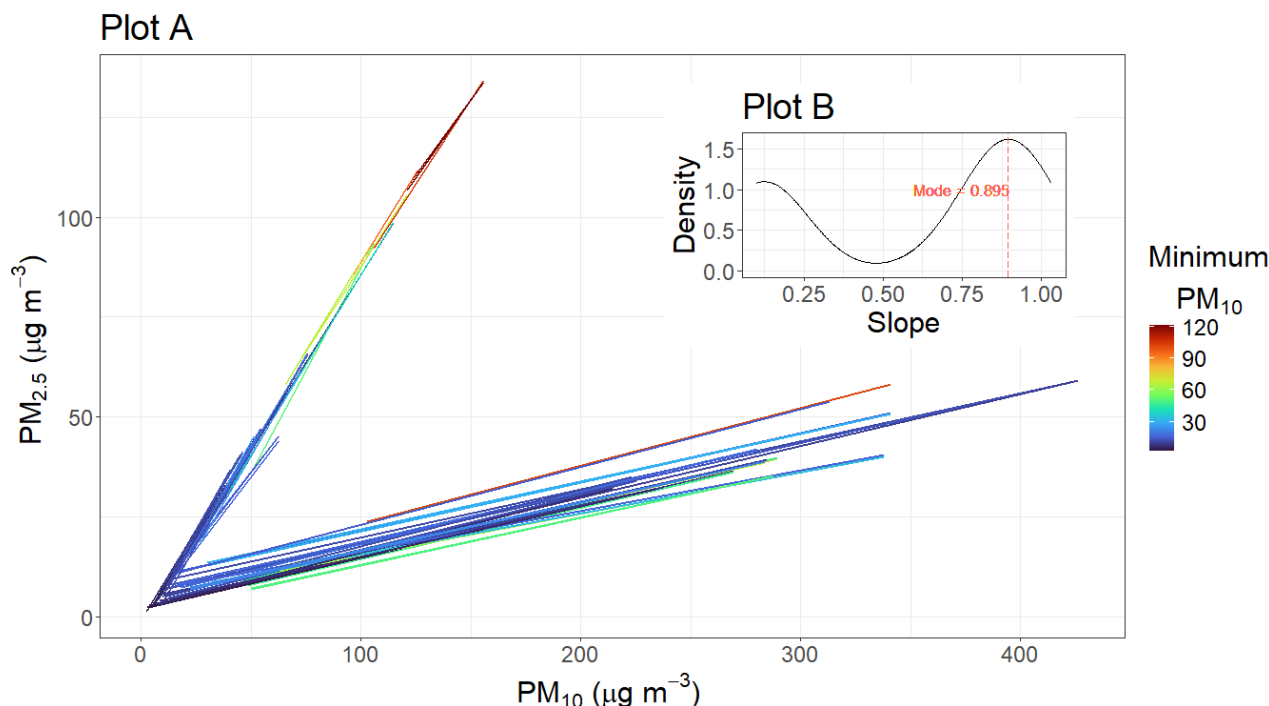


The above plots indicate some similarity between PM₁₀ and PM_{2.5} with winds from the south-east being important to the occurrence of both. It may also be the case that winds from a north to southeast arc have a far greater influence on the observed levels of PM_{2.5}, albeit wind direction appears less influential to PM_{2.5}, than it is to PM₁₀ at Site No. 130 (Upper Garth Avenue). Although the PM₁₀ relationship to hour of the day is conspicuous, with respect to PM_{2.5} it is possible that evening and nighttime sources from a west to south-east arc are more relevant to PM_{2.5} than is the case of PM₁₀. This could indicate that although local sources of PM_{2.5} are likely to be of relevance and be shared with the emission of PM₁₀, other sources more broadly distributed within the locality and region may also have an impact on the observed levels of PM_{2.5}.

Often specific sources of pollution can produce relatively stable inter-pollution relationships, for instance when an activity giving rise to particulate matter is undertaken in a similar way time and again, the ratio of particle sizes within the emission may well be expected to remain broadly similar and invariant. Although other influences, for instance fluctuating background levels, can challenge interpretation, considering the ratio between PM_{2.5} and PM₁₀ during periods of rapid significant change in their concentrations can help to illustrate the importance and even dominance of certain, normally localised, sources.

Figure 4-24 provides a 'dilution line' plot (Plot A) and associated density plot (Plot B) for the calculated regression slope between $PM_{2.5}$ and PM_{10} at Site No. 130 during periods of elevated levels of $PM_{2.5}$ during significantly changes in PM_{10} concentration.

Figure 4-24: Dilution line plot of PM_{2.5} and PM₁₀ measured at Site No. 130 (Upper Garth Avenue) between 2024 and 2025.



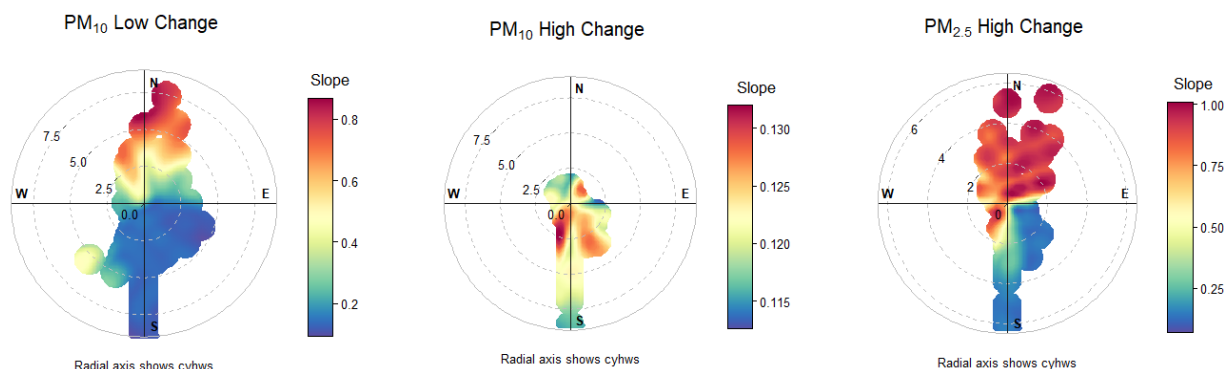
It would be expected that some degree of association will exist between PM_{2.5} and PM₁₀ as PM_{2.5} will inherently contribute, to some degree, to PM₁₀. However, the above plots appear to distinctly illustrate two separate clusters, one where elevated levels of PM₁₀ are relatively less influenced by corresponding changes in PM_{2.5} (right hand side lines) and the other, lesser one, where moderately less elevated levels of PM₁₀ are relatively more influenced by changes in PM_{2.5} (left hand side lines). This could be suggestive of at least two, distinct consistent sources, that are relevant during periods of elevated levels of PM₁₀ but which may influence the levels of PM₁₀ differently. Utilising the above analysis, it is possible to reference the aforementioned relationships with wind direction¹¹,

¹¹ Making use of Nonparametric Wind Regressions due to the inherently limited data set as a result of threshold cutoff.

Figure 4-25 uses a series of polar plots¹² describing the regression slope, from right to left, during occasions of relatively moderate changes in levels of PM₁₀, relatively very large changes in PM₁₀ and relatively very large changes in PM_{2.5}.

¹² PM₁₀ threshold for moderate change is 25 µgm⁻³ in three hours and for a very large change is 150 µgm⁻³

Figure 4-25: Polar plots of the regression slope between PM_{2.5} and PM₁₀ measured at Site No. 130 (Upper Garth Avenue) between 2024 and 2025



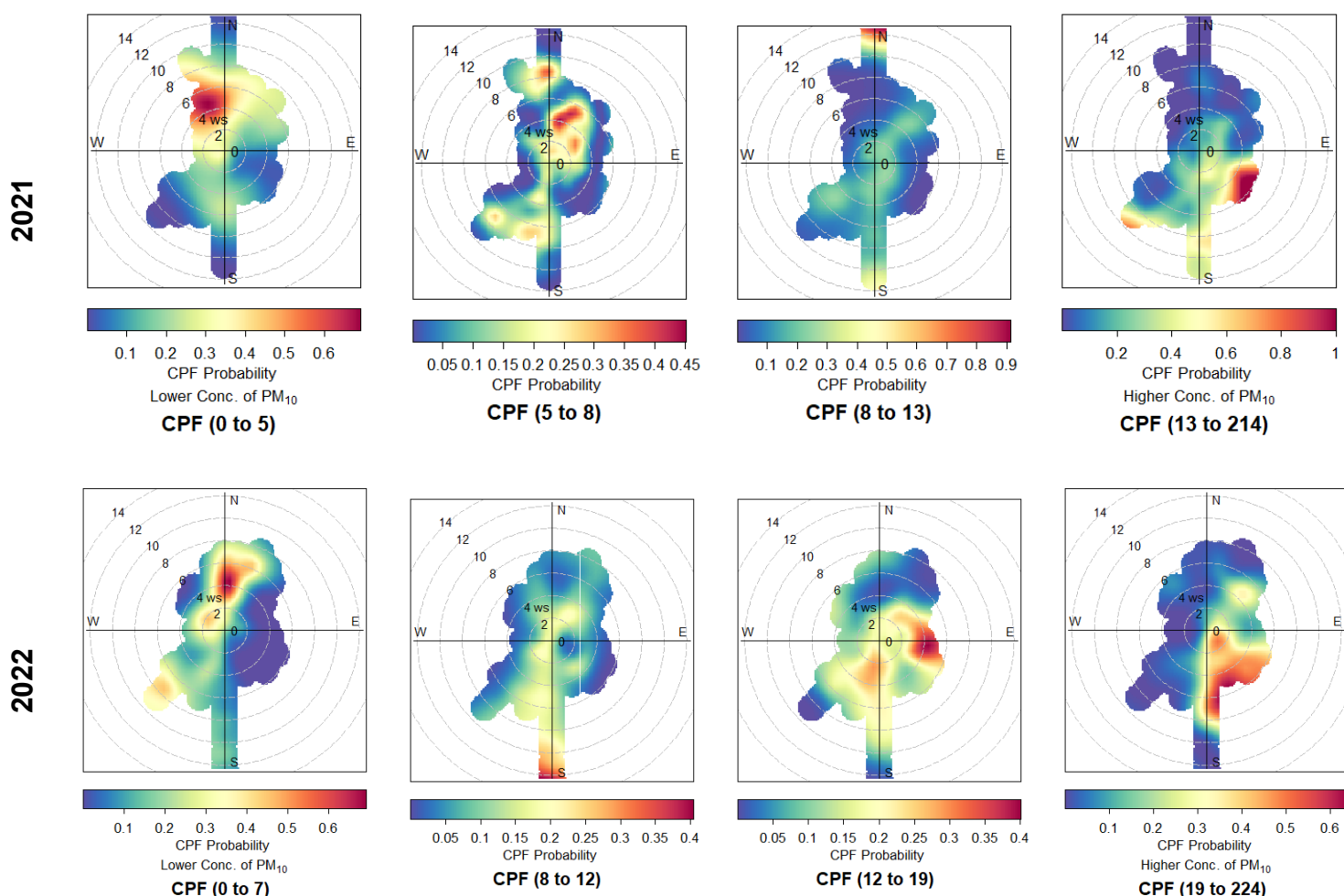
The above left hand polar plot indicates that, on occasions when there are moderate changes in the levels of PM₁₀, a strong linear response between PM₁₀ and PM_{2.5} is only observed from a north to north-east wind direction. On the face of it, this could suggest that on occasions of moderate changes to PM₁₀ levels, these could in part be influenced by north and north-east sources more closely linked to PM_{2.5}, such as combustion and transport activity. However, it is understood that PM_{2.5} can often be transported from greater distances, as such, the left-hand plot could also suggest that a distinct nearby southern source of PM₁₀, that is not strongly associated with PM_{2.5}, could be 'diluting' the regional mass flow PM_{2.5} to PM₁₀ ratio, and that this effect isn't experienced from a northern wind direction.

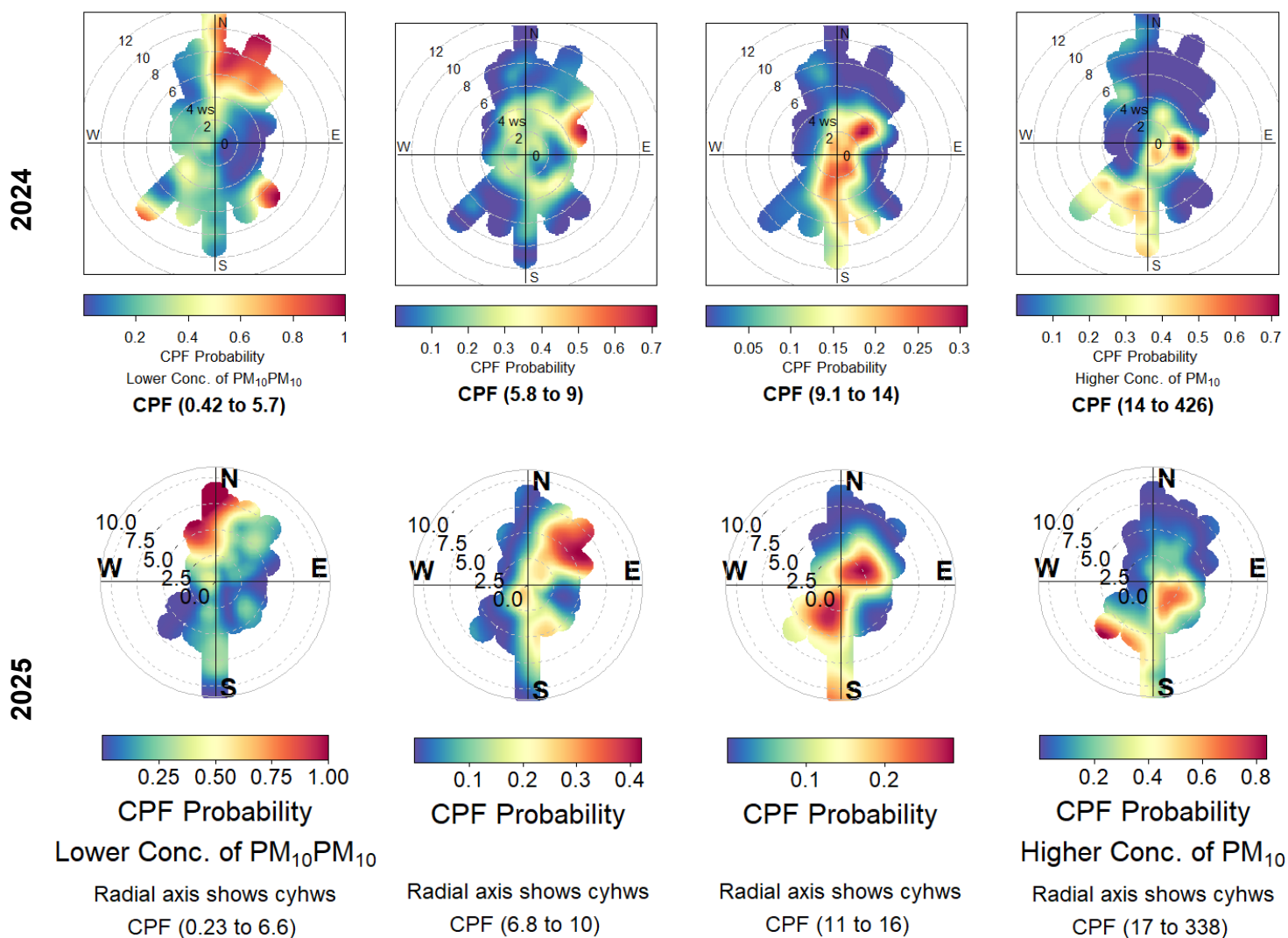
With regard to the smaller number of occasions when there are relatively very large changes in PM₁₀ levels, the right polar plot, there may be a possible predominating source to the south-west to south-east that is either or both largely associated with particle fractions greater than PM_{2.5} or is dominating the otherwise regional mass flow of air with locally elevated levels of PM₁₀. Of interest is a moderate uptick in PM_{2.5} to PM₁₀ ratio associated with the south east direction and even more so with south west wind direction, indicating the possibility of two similar but possibly semi-related localised sources. It is possible this could relate to slightly differing activities or conditions within the respective parts of Craig Yr Hesg Quarry that reside in that direction. However, this analysis is associated with a significant degree of uncertainty due to the relatively infrequent occurrence of these events.

Finally, the right hand plot, illustrates occasions when very large changes to PM_{2.5} levels are experienced. This plot indicates that when high elevated PM_{2.5} levels dominate the overall observed particulate matter level, that these may be associated mostly with a general north to north east wind. Whereas, if the elevated levels of PM_{2.5} are experienced along with disproportionately greater levels of PM₁₀, then this is likely associated with a south wind direction. This is in keeping with the above analysis of the left hand plot and supports the belief that probably localised sources of particulate matter to the south observe a relatively distinct emission profile indicating, consistency, dominance and possible propensity towards higher particle sizes over PM_{2.5}, at least to some extent. These distinctive emission profiles could likely correspond to various mineral processing activities at Criag Yr Hesg Quarry but the relatively limited data set so far impairs any definitive conclusions.

Although wind direction is likely to be the primary factor in influencing local levels of PM₁₀ at Site No. 130 (Upper Garth Avenue), wind speed in combination with wind direction may also be important in understanding various influences. To help further illustrate the possible connections between the observed levels of PM₁₀ and local wind direction and measured ten-minute average wind speed, Figure 4-26 provides conditional probability function polar plots of PM₁₀ levels measured in 2021, 2022, 20224 and 2025 at Site No. 130 (Upper Garth Avenue).

Figure 4-26: CPF Polar Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) in 2021, 2022, 2024 and 2025.



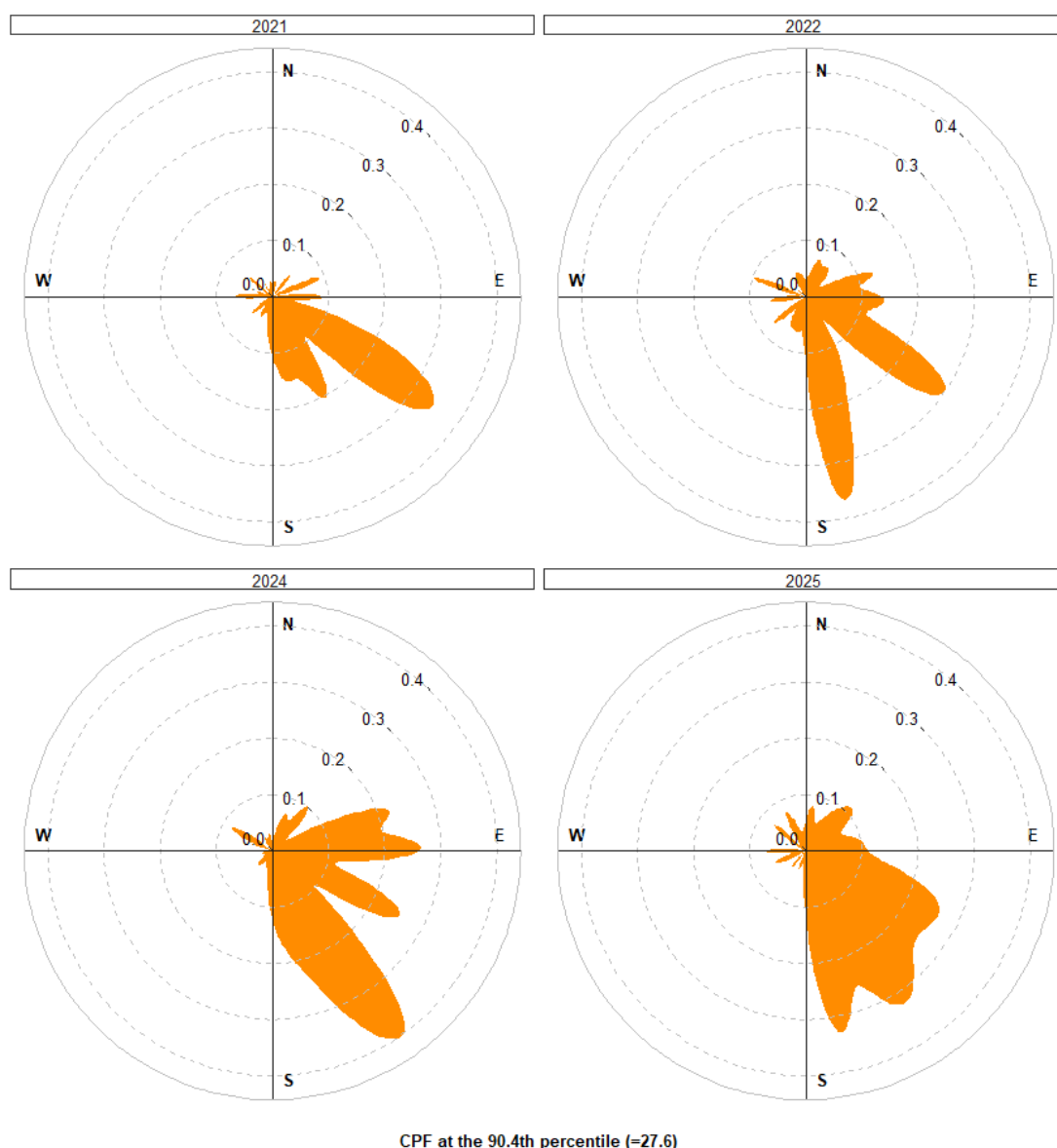


The above CPF polar plots help to demonstrate if specific wind directions and wind speeds are associated with differing observed levels of PM₁₀, for each calendar year displayed. The plots to the left are associated with the lowest observed levels of PM₁₀ ($< 5\text{--}7 \mu\text{gm}^{-3}$) whilst the plots to the right are associated with the highest observed levels of PM₁₀ ($> 13\text{--}19 \mu\text{gm}^{-3}$). The above CPF polar plots consistently illustrate that occasions of lower levels of PM₁₀ tend to be associated with relatively moderate to strong north winds. In contrast, occasions of moderate to higher levels of PM₁₀ are often associated with either moderate strength winds blowing from the south-west to south-east or calmer winds generally from the east. Of note, is the relevance of medium strength winds from the south to south-west, indicating local sources of PM₁₀ that, at lower wind speeds may not be significant but at higher wind speeds become increasingly relevant to observed levels of PM₁₀. It is possible, this could be associated with resuspension of particulate matter from general areas of Craig Yr Hesg Quarry, which predominantly lie in this direction, or otherwise regional emissions from further away.

It can be useful to understand the association with wind direction when PM₁₀ levels are at their highest, as this will likely relate to occasions which may challenge compliance to the 24-hour mean AQO for PM₁₀. To emphasise the association between wind direction and

occasions when PM₁₀ levels are observed at their highest at Glyncoch, Figure 4-27 provides a 90.4th percentile conditional probability function polar plot of PM₁₀ levels measured in 2021, 2022, 2024 and 2025 at Site No. 130 (Upper Garth Avenue), 2023 data has not been illustrated due to the small data set available for that year.

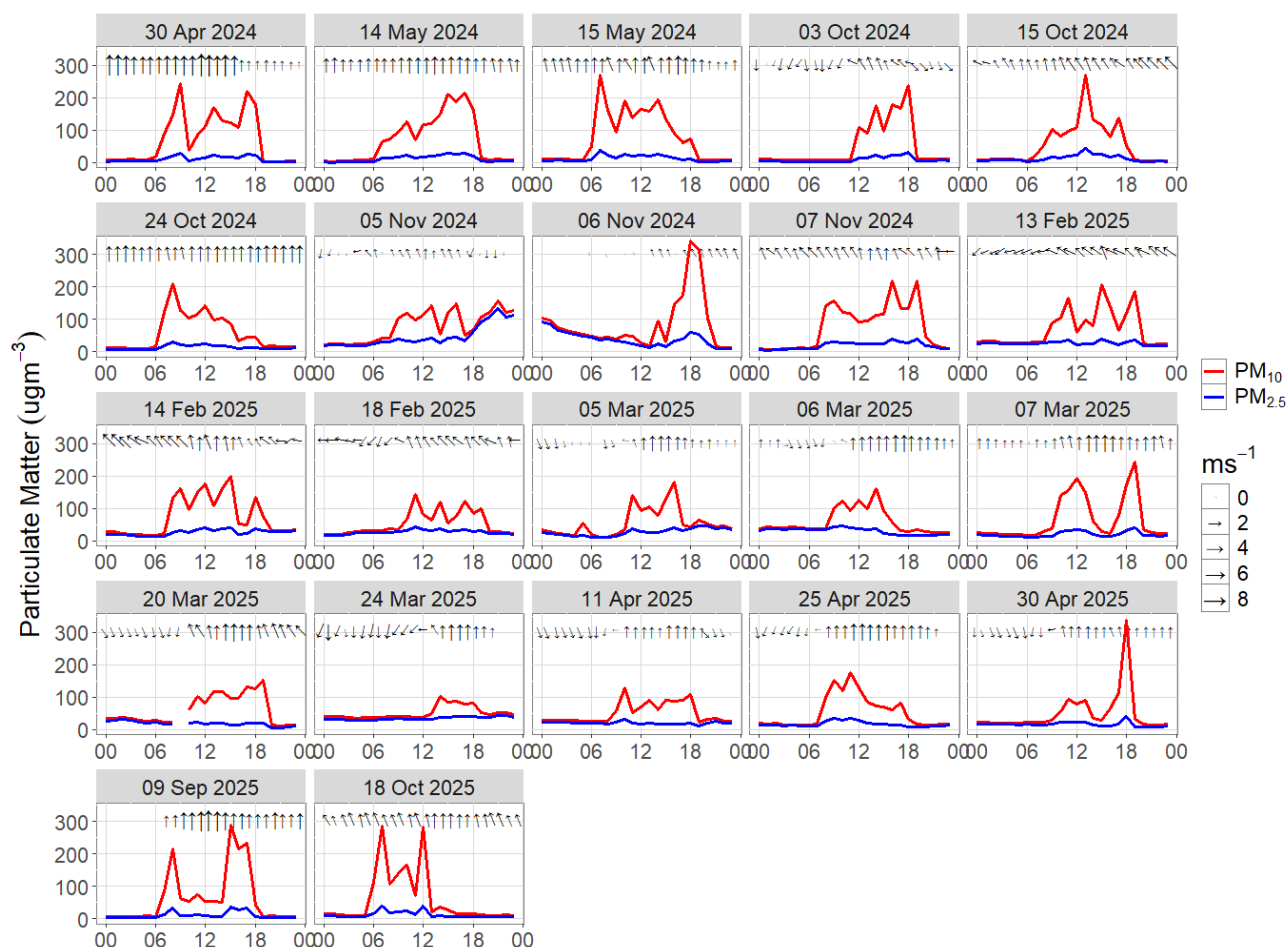
Figure 4-27: 90.4th Percentile Polar Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue TEOM FDMS) in 2021, 2022, 2024 and 2025



The 90.4th percentile rose Plot confirms that, in 2025, the very highest levels of PM₁₀ were most likely to be associated with wind from the south-east. In this respect the 2025 data appears very similar to that experienced in the past, indicating that the sources of PM₁₀ from this direction maybe both persistent, consistent and of importance when considering circumstances that may challenge continued compliance with the 24-hour mean AQO for PM₁₀.

To help further illustrate the possible connections between the observed hourly levels of PM₁₀, for each day when the 24-hour mean was above 50 µg m⁻³ since 2021, and local wind direction and speed, Figure 4-28 provides time plots of PM₁₀ (red line) and PM_{2.5} (blue line) measurements for each day, since 1st January 2024, which exceeded the 24-hour mean of 50 µg m⁻³ at Site No. 130 (Upper Garth Avenue). In addition, the hourly average wind direction (black arrow direction) and speed (black arrow length) are also indicated.

Figure 4-28: Time Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) for each day when the 24-hour mean is above 50 µg m⁻³ since 2024



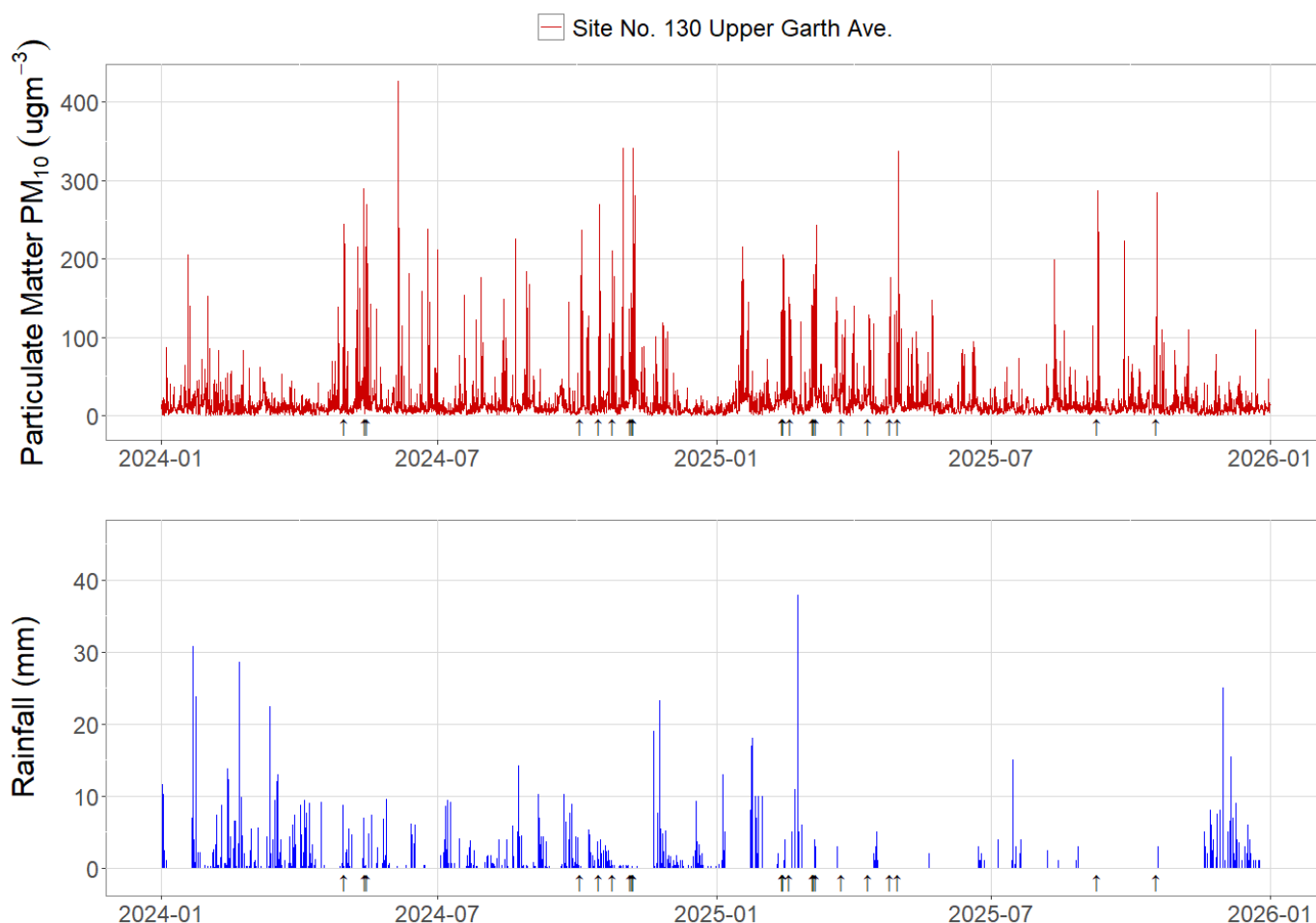
A large majority of the above identified occasions arise in the same reported pattern of elevated levels of PM₁₀, on a weekday between 7 am to 6 pm, and with a broadly south-east to south wind direction and moderate wind speed. Although the levels of PM_{2.5} correspondingly increase during these periods, it is apparent that a significant composition of PM₁₀, during day-time peak concentrations, is likely comprised from particle sizes greater than PM_{2.5}, as opposed to lower concentrations of PM₁₀ at night-time when the PM₁₀ and PM_{2.5} concentrations are much closer in alignment.

There are a few occasions which don't align with the majority, the evening of the 5th November 2024, with the close alignment of PM₁₀ and PM_{2.5} at elevated levels into the late evening, likely as a result of Bonfire Night activity. The Bonfire Night occasion highlights the different emissions profiles that can arise depending upon which types of sources are dominating. With a close alignment of PM₁₀ and PM_{2.5} during elevated occasions such as the 5th

November possibly indicative of combustion related or physio-chemical sources which tend to produce smaller particulate matter fractions. As opposed to occasions of clear dissonance, between PM₁₀ and PM_{2.5} concentrations, that may relate to a predominance of mechanical or entrainment sources, that can sometimes relate to larger particulate fractions like PM₅ and above. On the whole, these occasions highlight the differences with the relationship between PM₁₀ and PM_{2.5} and supports the belief of the importance of local sources of particulate matter that are not necessarily combustion or transport related.

Aside from wind speed and direction, precipitation (rainfall) could be reasonably believed to have influence on the emission of particulate matter from local fugitive sources of particulate matter. Figure 4-29 provides a time plot of hourly PM₁₀ levels (red line) in 2025 at Site No. 130 (Upper Garth Avenue) and a bar plot of hourly rainfall (blue bars), both plots have been annotated with under-arrows (black arrows) identifying the days in 2025 which exceeded the 24-hour mean of 50 $\mu\text{g m}^{-3}$.

Figure 4-29: Time Plot of PM₁₀ measured at Site No. 130 (Upper Garth Avenue) with Bar Plot of precipitation [rainfall] in 2025



Analysis does not indicate any significant correlation between days experiencing rainfall and locally experienced levels of PM₁₀ at Site No. 130 (Upper Glyncoch Avenue) (either for rainfall generally ($r = -0.07$) or with rainfall associated with a south-east wind direction ($r = -0.12$). However, it can be observed that sustained periods of less frequent rainfall tend to experience

occasions when the 24-hour mean of $50 \mu\text{g m}^{-3}$ was exceeded ($r = -0.27$). In general, rainfall can be known to cause an effect called 'wet scavenging', which is where the rain droplets either absorb or 'knock out' air borne particulates, reducing the concentration of particulate matter. Wet scavenging tends to have a greater influence if the rainfall is both heavy and persistent and where PM_{10} is travelling at distance from its source, which increases the time for the wet scavenging to materially reduce the PM_{10} concentration. More local sources of PM_{10} are less likely to be influenced by intermittent rainfall due to small transportation distance but more influenced by sustained periods of rainfall, possibly because the sources are conditioned, so reducing their likelihood to emit PM_{10} in the first place, in combination with wet scavenging reducing regional levels of PM_{10} .

The combination of the above analysis reinforces the longstanding awareness of the likely significant influences that a range of sources of PM_{10} have at Site No. 130 (Upper Garth Avenue) being very local, intermediate and at distance from the monitoring location. In addition, environmental influences may affect the transport of PM_{10} to and its dispersion within the locality, also influencing the locally experienced levels of PM_{10} . It is known that sources of PM_{10} can be extremely variable, however, it is currently believed that the patterns identified at Site No. 130 (Upper Garth Avenue) would likely be associated, in the main, to anthropogenic sources. The above analysis, supported by understanding reported in previous reviews, would suggest that the main sources of PM_{10} experienced at Garth Avenue are likely to be specific to the immediate locality, repetitive and predominated by an activity largely undertaken during 'working hours' and located to the south-west to south-east of Site No. 130 (Upper Garth Avenue). Furthermore, the influence of the activity's emissions can be moderately variable, possibly in part due to the importance of cyclical climatic conditions and specific prevailing weather affecting its emission and subsequent transportation. This analysis continues to support the conclusion that various operations at Craig Yr Hesg Quarry remain a significant source of locally observed PM_{10} .

Although it remains difficult to predict a future trend at Glyncoch it appears that, at present the location remains compliant to the annual mean and the 24-hour daily mean AQOs for PM_{10} . Furthermore, the available evidence may suggest that the levels of PM_{10} have improved slightly since 2014, potentially corresponding to possible improvements to the control of particulate matter emissions from Craig Yr Hesg Quarry as well as more broadly. Nonetheless, sustained climatic events, for instance a protracted and stable dry period, may threaten any improvement. Therefore, continued monitoring may be necessary to ensure any future changes that could impact the local prevalence of PM_{10} , can be fully considered.

4.3.6 Particulate Matter [$\text{PM}_{2.5}$]

In looking to support understanding and further inform the local community, the Local Authority has implemented the monitoring of $\text{PM}_{2.5}$ at Site No. 130 (Upper Garth Avenue) in Glyncoch.

With respect to the assignment of responsibility, the Local Authority does not assess compliance to a limit value for $\text{PM}_{2.5}$. However, for conciseness the consideration of $\text{PM}_{2.5}$, as it relates to the overall understanding of PM_{10} , has been included within Section 4.3.5 above.

4.4 Summary of Compliance with AQOs as of 2025

Rhondda Cynon Taff County Borough Council has examined the results from monitoring within its area. It has determined, on the basis of consistent monitoring results and understanding over a number of years, that each extant AQMA within its area continues to exceed or may be at risk of exceeding the annual mean AQO for NO₂. Therefore, the following AQMAs shall remain as is:

- Cymmer Air Quality Management Area
- Ferndale Air Quality Management Area
- Tylorstown Air Quality Management Area
- Mountain Ash Town Centre Air Quality Management Area
- Nightingales Bush Air Quality Management Area
- Pontypridd Town Centre Air Quality Management Area

The level of NO₂ outside of the current AQMAs and levels of PM₁₀ throughout Rhondda Cynon Taf are likely to be below their relevant AQOs, therefore **no additional action is required at this time**.

5. New Local Developments

The Local Authority is the Highway Authority for all of its area other than for those roads which are the responsibility of Welsh Government, as managed by its South Wales Trunk Road Agent.

The Local Authority is the Regulator of certain provisions of the Environmental Permitting (England and Wales) Regulations 2016 and the Clean Air Act 1993.

The Local Authority is the Local Planning Authority for all of its area other than that which forms part of the Bannau Brycheiniog National Park Authority, where that Authority is the Local Planning Authority.

5.1 Road Traffic Sources (and Other Transport)

Transport can be a source of air pollution, for instance road vehicles can give rise to Particulate Matter and, in the case of vehicles powered by internal combustion engines, Nitrogen Dioxide as well as other air pollutants. Consequently, transport management is a viable solution in improving local air quality, for instance mass transit increasing the efficiency of travel or the adoption of new technologies providing less polluting vehicles.

5.1.1 Trunk Road Traffic Sources

Certain parts of Rhondda Cynon Taf's strategic road network (M4 and A470) is separately managed by the South Wales Trunk Road Agent [SWTRA] on behalf of Welsh Government, so as to facilitate national interconnectivity.

In response to an understanding that parts of the A470 may have been non-compliant to the respective Limit Value for NO₂, the Welsh Government determined that parts of the A470 should be subject to a reduction in the speed limit from 70mph to 50mph. This action being assessed as the most cost-effective option to improve local air quality [19].

The intervention was primarily pursued by Welsh Government with the stated aim of working towards achieving compliance to Limit Values for NO₂ within the South Wales Non-Agglomeration Zone. However, it is acknowledged that this action, which has affected communities between the Upper Boat & Pontypridd Junctions, has likely had significant consequences, in reducing the impact of air pollution from the A470, to the nearby Nightingales Bush and Pontypridd Town Centre AQMAs, as well as more widely in the region. Further details of the area affected and actions taken are available on the Welsh Government [website](#).

Regular review of this action has been undertaken on behalf of Welsh Government, with the latest available findings [20] suggesting full compliance to the relevant Limit Values for NO₂ within the A470 Pontypridd to Upper Boat intervention area. Although it is expected that dedicated air quality monitoring will continue to confirm continued compliance, it has previously been stated that "the precautionary retained measures are also unlikely to be required and can be discounted" and an eventual exit strategy considered.

Given the beneficial impact of this measure on local air quality the Local Authority will advocate for its retention until such time as compliance to the annual mean AQO for NO₂ has been sustainably achieved within the Nightingales Bush AQMA.

5.1.2 Non-Trunk Road Traffic Sources

The A4119 Coed Ely dualling scheme was substantively completed by the 3rd March 2026, albeit the road has been in operation throughout the period of improvement works. The newly improved road has resulted in the approximate dualling of a 1.2 km part of the A4119 between Ynysmaerdy and Coed Ely, observing a 50 mph speed limit.

Given the relatively rural nature of the road in this area, the scheme has not resulted in any new relevant population that required assessment either within the improvement works area or associated with potential traffic growth along the local traffic network.

It is believed that there have been no other newly built local roads or related transport developments, in 2025, that would likely significantly elevate levels of air pollution within a relevant population.

With regard to non-trunk roads, Rhondda Cynon Taf CBC as the local Highways Authority continues to make significant investment in local transport provision and has published updates (on the RCTCBC [website](#)) on a number of major highways projects that are currently being advanced and which may have an effect on local air quality. Table 5-1 provides some brief details on these schemes and a provisional qualitative assessment of their impact.

Table 5-1: Proposed and advanced road schemes which have the potential to impact local air quality.

Project	Description	Status	Affected AQMA	Qualitative Impact
Llanharan Sustainable Transport Corridor	New through road network associated with multi-phase housing development, which is planned to relieve traffic from the existing A473 as it runs through Llanharan centre	£0.66M funding provided to support active travel design linked to the Llanharan corridor proposals	-	Potential major improvement within parts of Llanharan
A465 Cynon Valley Gateway	Future highway link in the north of the Cynon Valley, improving connectivity between the A4059 and the A465.	The Local Authority has been working closely with Welsh Government and Transport for Wales to review options of any scheme which is currently being refined with Welsh Government. £2.01M funding provided to support the scheme as it progresses through initial consideration.	-	Potential minor improvement within parts of Llwydcoed and Penywaun
Porth Park and Ride Phase 3	Porth Transport Hub Improvement	£1.369M funding provided to support extra parking provision linked to the transport hub	-	Potential minor improvement within Porth.
Pontypridd Northern Gateway	Improve access to Pontypridd Bus Station and support better sustainable transport connections in the wider town centre area	£0.15M funding to advance project	Pontypridd	Potential moderate improvement within parts of AQMA
Active Travel Network	General minor works scheme	£0.39M funding to progress smaller walking and cycling improvements and encourage use across RCT	-	Potential minor improvement within parts of RCT

Project	Description	Status	Affected AQMA	Qualitative Impact
Penywaun Safe Routes	Supporting safe routes to schools and within communities	£0.298M funding to progress identified safety works that may encourage increased use of local active travel routes	-	Potential improvement within Penywaun minor

5.1.3 Other Transport Sources

The Local Authority continues to work closely with the Welsh Government Transport Company and other partner organisations in the development and delivery of the South Wales Metro. It is likely that the phased operation of the South Wales Metro will have a significant improving impact upon air quality throughout a large area of Rhondda Cynon Taf and specifically those communities in the Taf Valley that are associated with the A470.

5.2 Industrial / Fugitive or Uncontrolled Sources / Commercial Sources

Although the degree of industrialisation of Rhondda Cynon Taf has significantly reduced compared to historic levels, there are still a number of industrial premises present which could impact upon local air quality.

5.2.1 Environmental Permitting (England and Wales) Regulations 2016

Under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2016, the Local Authority can grant Environmental Permits to operate various permitted activities, further details about this regime are available on the Local Authority's website [21]. Further details of the Regulated Facilities within Rhondda Cynon Taf are available on the Environmental Permitting Public Register held by the Local Authority, the index of which is also available on its webpage [21]. Table 5-2 identifies any new or substantially changed stationary Regulated Facilities, within Rhondda Cynon Taf, in 2025.

Table 5-2: New or Substantially Changed Environmental Permits granted by the Local Authority in 2025

Permit Ref.	Operator	Activity	Relevant Pollutants	Area	Affecting LAQM
PPC 135	iRG Pontypridd	Vehicle Refinishing	VOCs & Particulates	Treforest	No

5.2.2 Clean Air Act 1993

The Clean Air Act 1993 requires that the occupiers of premises utilising certain 'furnaces', to notify the Local Authority of their installation or modification, further details about this regime is available on the Local Authority's website [22]. Table 5-3 identifies any new or significantly changed relevant furnaces and their chimneys, within Rhondda Cynon Taf, which have been granted consent under the Clean Air Act in 2025.

Table 5-3: New or modified relevant furnaces notified to the Local Authority in 2025.

Ref.	Operator	Rating	Fuel	Chimney Height	Relevant Pollutants	Area	Affecting LAQM
Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

5.3 Planning Applications

In accordance with Planning Policy Wales [23] and the Local Development Plan [24], the Local Authority considers air quality a material planning consideration. The Local Authority will, when necessary, take account of the implications of any development upon local air quality during the planning consent decision making process. The Local Authority will attempt to ensure that, if necessary, future developments will negate or mitigate any impacts on local

air quality whilst continuing to treat each application for planning consent on its individual merits.

The Local Authority has produced informal guidance criteria [25] used by it to identify, in a consistent and proportional way, applications for proposed developments which could either have the potential to adversely impact upon local air quality or introduce a relevant population to an existing area of potentially poor local air quality. Should a development meet the criteria and it is proportionate to do so, the Local Authority will seek to require an Air Quality Assessment [AQA]. An AQA will look to objectively examine the air quality implications of the proposed development and provide sufficient information to allow the Local Planning Authority to evaluate the material planning consideration.

Table 5-4 details the planning applications in 2025 initially considered as having the potential to impact local air quality management and, where appropriate, an Air Quality Assessment was desired or was otherwise assessed for its air quality impact. Applications that were refused are not included.

Table 5-4: Planning Applications under consideration or approved in 2025 where an AQA was desired

Application Number	Location	Description	Affecting LAQM or AQMA
24/5113/PRE	Glycoch	Residential development	-
25/0138/FUL	Pontyclun	Erection of a data centre building (Use Class B8)	-
25/5019/PRE	Beddau	120 residential properties in proximity to road >10,000 AADF	-

24/5113/PRE and 25/5019/PRE are preapplication enquiries and relevant comments were provided to the local planning authority.

25/0138/FUL was subject to an Air Quality Assessment which did not identify a significant impact to local air quality.

No other relevant proposed developments have been identified which would be expected to materially affect or be affected by local air quality management considerations.

5.4 Other Sources

The Local Authority appreciates that certain pollution incidents as well as wide scale bonfire activity, large firework displays, wildfires and domestic solid-fuel burning can have the potential to impact upon local air quality.

Rhondda Cynon Taf can experience a large number of intentional wildfires; over the last 20 years there have been more than 76,000 reported wildfires, of which 96% were intentionally set” and “between March 2020 and March 2021, South Wales Fire and Rescue Service were called to 1,053 deliberate wildfires, with 297 of these in Rhondda Cynon Taf” [26]. The incidence of intentional wildfires has varied, being dependent upon dry weather aligning with school term breaks, which has resulted in occasions of wide-scale wildfires affecting large areas of the Rhondda and Cynon valleys. Although these wildfires are usually associated

with rural open mountainside locations they can still, on occasion, arise in close proximity to some residential areas. These wildfires normally involve the burning of large areas of bracken and other vegetation, in an uncontrolled manner, with significant amounts of black smoke being produced, occasionally for extended periods of time.

Although these wildfires are unlikely, in themselves, to pose a risk of compliance to a relevant AQO, the Local Authority considers that the prevalence of intentional wildfires can, dependent upon circumstances, have a significant short-term effect on local air quality by potentially elevating local levels of particulate matter and black carbon. Anecdotal reports suggest these incidents could have a direct effect on public health as well as causing anxiety and concern within the communities affected.

Although, the Local Authority has not got the resources to directly quantify the air quality impact of wildfires within or in proximity to its area, in recognising the potential impact of such wildfires the Local Authority will continue to work with its partners to deter their occurrence. This work involves playing an important role in the delivery of the Healthy Hillside Initiative, which includes a goal of “providing opportunities and education in land management so that together, [Rhondda Cynon Taf] can become a wildfire-wise county borough”. In this regard the Health Hillside partnership is engaging with the community of Llantrisant to pilot ways to help reduce the occurrence and risk of wildfires.

It is hoped that targeted holistic interventions, involving a range of stakeholders and the communities effected, will result in a reduction in the occurrence of intentional wildfires, whilst acknowledging that climatic change may otherwise increase their prevalence and extent. In addition, the Local Authority will also continue to monitor emerging understanding upon the public health impact of wildfires and, where necessary, will react accordingly.

The Local Authority recognises the impact of bonfires, firework displays and domestic solid-fuel burning within its area could have on local air quality. As such it continues to enforce a range of statutory provisions, including building regulations and the statutory nuisance regime, to deter or otherwise minimise these activities where they are shown to cause a significant negative impact.

It is also recognised in certain circumstances there can be a potential association between the domestic use of solid fuels and fuel poverty. As a result, it is acknowledged that the potential for ongoing economic challenges may result in an increased use of solid fuels in the near term. The Local Authority is working to tackle this in a number of ways, including raising awareness, signposting eligible households to available grants, encouraging the installation of energy efficiency measures in domestic settings, while also encouraging more energy efficient behaviour, maximising the income of low-income households and providing support for vulnerable people.

The Local Authority does not maintain sufficient information to quantify the likely prevalence or combined impact of the above activities, however, it is believed that at present it is unlikely that they would significantly threaten compliance to a relevant AQO within Rhondda Cynon Taf.

5.5 Summary of Local Developments

Rhondda Cynon Taff County Borough Council confirms that there are **no new or newly identified local transport or other developments which may have a single significant impact on air quality** within the Local Authority area.

Rhondda Cynon Taff County Borough Council confirms that all the following have been considered:

- Road traffic sources
- Other transport sources
- Industrial sources
- Commercial and domestic sources
- New developments with fugitive or uncontrolled sources.

6. Policies and Strategies Affecting Airborne Pollution

A diverse range of activities and interests can have a material effect on local air quality management, including a number of policy areas where the Local Authority may have adopted formal strategies, policies or positions or otherwise has an interest.

6.1 Clean Air Plan for Wales

The Welsh Government's Clean Air Plan for Wales [27] provides an overarching plan, highlighting a number of possible future changes to not only Local Air Quality Management but also more widely as to how air pollution can be locally and nationally improved. This has culminated into the Environment (Air Quality and Soundscapes)(Wales) Act 2025 [3] which includes a range of new or enhanced measures to help realise the policy objectives as outlined within the Clean Air Plan for Wales.

To facilitate this legislation, Welsh Government have provided statutory guidance on 'Local Air Quality and Soundscapes Management in Wales' [28]. This guidance sets out the ways of working with an emphasis on long-term thinking combined with policy integration and the involvement of local communities. Of note is its distinction of sensitive receptor locations and inclusion of environmental noise.

6.2 Local / Regional Air Quality Strategy

At present the Local Authority has not determined to produce a local air quality strategy and is not a member of any local government produced regional air quality strategy. However, it is expected that the extant AQAPs adopted by the Local Authority, will have a co-ordinating role with regards to the delivery of air quality improvement.

6.3 Development Control Policies

The Local Authority is the Local Planning Authority for that part of its area not within the Bannau Brycheiniog National Park. In accordance with guidance the Local Authority has adopted a Local Development Plan [24] for the period 2006-2021. The Local Planning Authority has also commenced the process for revising Local Development Plan for the period after 2021. In preparation, a preferred strategy consultation was initially undertaken in 2024. It is currently expected that a revised Local Development Plan 2022-2037 will be adopted in due course. In the interim, the existing Local Development Plan 2006-2021 will continue to be the mechanism for determining planning applications until it is formally replaced.

The Local Development Plan references several policies which are designed to protect the environment and human health. A key policy is "Policy AW10 – Environmental Protection and Public Health", reproduced in Table 6-1, which provides a clear indication on how proposed developments which adversely affect air quality will be catered for.

Table 6-1: "Policy AW 10 Environmental Protection and Public Health".

Development proposals will not be permitted where they would cause or result in an unacceptable risk of harm to health and/or local amenity because of: -

1. Air Pollution

2. Noise Pollution
 3. Light Pollution
 4. Contamination
 5. Landfill Gas
 6. Land Instability
 7. Water Pollution
 8. Flooding
 9. Or any other identified risk to public health
- Unless it can be demonstrated that measures can be taken to overcome any significant adverse risk to public health and / or impact upon local amenity.

The Local Planning Authority has not yet proposed to adopt any Special Planning Guidance with regard to air quality but will continue to strive to harmonise treatment of planning applications and ensure transparency where air quality is a material consideration.

6.4 Local & Regional Transport Plans and Strategies

As a result of a transfer of powers¹³ the Local Authority is no longer required to maintain a Local Transport Plan, instead the Local Authority is a member of the Cardiff Capital Region Corporate Joint Committee which has adopted the Regional Transport Plan for South East Wales [29], that includes the entirety of Rhondda Cynon Taf. A number of transport related Local Authority policies and strategies as well as other transport authority's goals and projects may also influence local air quality within Rhondda Cynon Taf.

6.4.1 Regional Transport Plan

The Regional Transport Plan for South East Wales [RTP] will cover the period up to 2030 and will include a number of objectives, several of which may be relevant to local air quality management.

¹³ Pursuant to the Local Government and Elections (Wales) Act 2021

Table 6-3 provides an overview of schemes within the RTP that are specific to Rhondda Cynon Taf, with further detailed provided at the Cardiff Capital Region Regional Transport Plan [website](#) (external link).

Table 6-2: Overview of RCT specific schemes within RTP Development Plan Scheme List

Theme	Description	Relevant AQMA or area of interest
Public Transport	Porth Park & Rider Phase 3	Porth
Highways	Cynon Gateway Linkroad	Aberdare
Active Travel	Pen Y Waun Primary School Scheme	Pen Y Waun

It is recognised that certain transport related policy interventions can also have an important role in Local Air Quality Management.

Table 6-3 provides an overview of other key policy and project related developments and potential implications to local air quality management.

Table 6-3: Overview of other key policy related developments

Policy	Description
Hackney Carriage (Taxi) & Private Hire Vehicle Fleet	The Local Authority currently stipulates vehicle technical standards, including proscriptions on the maximum age of a vehicle, for licensed vehicles. In doing so the Local Authority has regard to the Cardiff Capital Region CJC ULEV Taxi Strategy. This strategy provides the framework required to achieve a zero-tailpipe emissions fleet by 2028 having regard to the standardisation of vehicle licensing conditions alongside a significant regional package of incentive measures to support the early phased introduction of plug-in grant eligible ultra low emission vehicles.
Local Authority Low or Zero Emission Vehicle Fleet	The Local Authority maintains a fleet of approximately 481 vehicles, historically the Council's fleet was predominantly diesel based. However, the Council have been increasing the proportion of Hybrid and EV vehicle options, as well as alternative fuel options, with the intention of moving towards the use of more sustainable forms of fuel for many of its vehicles by 2030, where practical. The Council are in the process of evolving its fleet to transition to a low emission vehicle fleet as well as adopting practices, such as standardised refuse collection, that enables the maximisation of vehicles. In time this may bring forward vehicle emissions improvements, especially with respect to NO _x emissions, emitted by the Local Authority.
Fare-Charging Low or Zero Emission Bus Fleet	It is expected that Operators will transition to Zero or Low Emission Vehicles, where practical, by 2035. In time this may bring forward vehicle emissions improvements, especially with respect to NO _x emissions, produced by Operators. Depending upon support mechanisms this could also have the potential to impact, in the short term, on the viability of some currently marginal bus routes.
School Bus Transport	Requirement for Operators to ensure full accessibility of vehicles providing the service. This may result in the early phase out of older, potentially more polluting, vehicles which may also not be compatible with modern access standards.
General Urban Road 20mph Speed Limit	Substantial parts of the urban road network has now been reclassified from 30mph to 20mph vehicle speed limit. Although challenging to predict, this may not universally have a significant ¹⁴ direct impact on NO _x emissions [30] [31], albeit each location will experience its own specific circumstances. However, careful consideration [32] of any engineered street speed reduction measures, especially along streets that may otherwise be vulnerable to elevated levels of NO ₂ , may be necessary to avoid potential adverse side-effects.

¹⁴ Significance, in relation to NO_x emissions, may depend on the composition of Petrol to Diesel vehicles within the local vehicle fleet.

Policy	Description
Proposed Prohibition on Informal Pavement Parking	Pavement parking can be particularly prevalent in many communities within Rhondda Cynon Taf due to the legacy of limited off-street parking options and narrow carriageways. Pavement parking can, in certain circumstances, result in localised traffic congestion and an associated increase in NO _x emissions. Its prohibition may enable smoother traffic flow and subsequently less polluting journeys. Contrastingly should parked cars further encroach the carriageway, as a consequence of not being able to use pavement space, then the likelihood of additional traffic congestion may increase.

6.4.2 Transport for Wales Authority

Complimentary to the Regional Transport Plan for South East Wales, Transport for Wales are advancing a number of potential local and regional transport improvement projects. Regular updates on the progress made delivering them are available via the Transport for Wales Projects [webpage](#) (external website). Some of these projects may have direct relevance to Rhondda Cynon Taf and have been outlined below in

Table 6-4.

Table 6-4: Transport for Wales Authority Projects impacting Rhondda Cynon Taf.

Transport for Wales Rail Schemes		Relevant AQMA or area of interest
1	WelTAG assessment of the extension of the core valley lines from Aberdare to Hirwaun, making use of existing freight railway line infrastructure to provide an additional mass public transit alternative for the community of Hirwaun	Aberdare
2	Advocated extension of mainline electrification, and the use of electric locomotives, between Cardiff and Swansea	Llanharan
3.	Development of active travel station network plan for Pontypridd Railway Station	Pontypridd

In addition, Transport for Wales has introduced 'pay as you go' ticketing utilising a contactless payment system across the South Wales Metro network. This is expected to increase the desirability of sustainable travel on the railway (Metro) network by reducing the complexity of train ticketing whilst looking to provide the 'best value' fare for the journey.

Transport for Wales in partnership with a private public bus provider has also established a Rhondda Fach bus and rail integrated ticket. It allows for a single ticket, purchasable at the commencement of the journey, that enables travel on a mix of both bus and train from Maerdy and the Rhondda Fach to Taf Vale and Cardiff. This integrated travel approach is expected to support continued patronage of public transport within the Rhondda Fach, an area not served by current railway options and the rapid transit it can offer.

Transport for Wales is also advancing the process of bus franchising into South Wales by 2030 ([webpage](#) (external link)). It is believed that this may enable the organisation of buses services at a local and regional level, supporting simpler ticketing, fairer fares, clearer timetables and service information, a network easier to understand and use, more dependable services and more joined-up journeys.

The Local Authority will monitor the impact of the above schemes on local air quality and where necessary react accordingly.

6.4.3 Welsh Government Supplemental Plan

Parts of Rhondda Cynon Taf's strategic road network (M4 and A470) are separately managed by the South Wales Trunk Road Agent [SWTRA] on behalf of Welsh Government, so as to facilitate national interconnectivity. Welsh Government has acknowledged that certain parts of this national transport network may require additional intervention, to bring about improvements in air quality as quickly as reasonable. In doing so Welsh Government has adopted a supplemental plan [19] for tackling roadside NO₂.

Currently this supplemental plan specifically addresses targeted action to reduce the levels of NO₂ along a part of the A470 that runs between the Upper Boat and Pontypridd Junctions. A key supplemental plan intervention has been the implementation of enforced speed limit reduction, along relevant parts of the A470. The impact of this supplemental plan intervention is discussed in Section 5.1.

6.4.4 Electric Vehicle Charging Strategies

Both the Welsh Government and the Local Authority have adopted their own complimentary strategies in respect of Electric Vehicle (EV) Charging. With the Welsh Governments overarching Electric Vehicle Charging Strategy [33] acknowledging the need for a significant increase in both private and public charging infrastructure incorporating a mix of provision to support all road users as they transition to Low Emission Vehicles. With this aim in mind, the strategy advocates measures to require certain new homes to have electric vehicle charging capabilities whilst also supporting households without off-street parking provision. In addition, the availability of appropriate charging capacity to hackney carriage and bus operators is recognised as a priority.

The Local Authority has adopted its 'Electric Vehicle (EV) Charging Strategy 2021 - 2030' [34]. The number one aim of the strategy is to "develop an Implementation Plan to roll out an electric vehicle charging infrastructure aligned to future demand". The strategy aims to further understand needs, capabilities and likely resourcing of future electric vehicle charging infrastructure across a range of likely users. It also highlights the current lack of public electric vehicle charging infrastructure in Rhondda Cynon Taf and advocates, at least initially, the targeting of 'destination charging' whilst continuing to evaluate best practice with respect to residential charging.

In further advancing the EV agenda, the Local Authority has produced the 'Electric Vehicle (EV) Charging Implementation Plan' [35], under the auspices of the Cardiff Capital Region Transport Authority. The Implementation Plan consider several infrastructure related actions that could help support EV uptake, and in particular has identified the provision of EV charging infrastructure at Local Authority owned locations, particularly public car parks.

6.5 Active Travel Plans and Strategies

The Local Authority maintains a number of maps [36] showing the Active Travel routes within its area. In doing so the Local Authority has designated eleven 'Walking Routes' and nineteen 'Shared Routes' as reportable active travel routes. The Local Authority has also produced a proposed prioritisation of improvement works [37] relevant to maintaining and improving the local active travel network. It is expected that these works will have a generally geographically broad effect in helping to improve local air quality by continuing to facilitate active travel as an alternative or otherwise be complementary to many road vehicle journeys. As part of the active travel remit, the Local Authority has also produced an Active Travel Annual Report [38], which provides details on identified goals and progress made in promoting the active travel agenda.

In line with national policy expectations, it is expected that the Local Authority will continue to build upon and improve local infrastructure for walking and cycling. In addition, the Local Authority will aim to consider the needs of walkers and cyclists during its decision processes and, where appropriate to do so, make better provision for them. It will also look to promote, where practical, walking and cycling as a mode of transport.

It is envisaged that the potential for collaborative working to further this mutually conducive agenda could deliver local air quality improvement in a "win win" scenario.

6.6 Local Authority's Corporate Plan & Well-being Objectives

Having regard to statutory requirements and the overarching themes presented by the Well-being of Future Generations (Wales) Act 2015 the Local Authority has adopted a Corporate Plan, to shape its intent on further improving Rhondda Cynon Taf. The Local Authority, in partnership with various partners and stakeholders, is a member of the Cwm Taf Morgannwg Public Service Board and also shares its well-being objectives.

6.6.1 Corporate Plan

The Rhondda Cynon Taf CBC Corporate Plan [2] provides a framework in which the Local Authority has set out its core objectives. It is expected that all actions taken by the Local Authority will at least have regard to these and should, where it is reasonable to do so, aim to advance them. Table 6-5 provides a description of the Local Authority's overarching themes and associated core objectives.

Table 6-5: The Local Authority's Themes and Core Objectives

People & Communities Supporting and empowering RCT residents and communities to live safe, healthy and fulfilling lives	Children and young people have the best start in life and can learn and grow safely
	Residents can take care of their health & well-being so they can live healthy, independent, and fulfilling lives
	Safeguarding our most vulnerable residents of all ages, providing protection, care and support when they need it most so that they can maximise their potential
	Residents will have access to affordable, good quality and energy efficient homes
Work & Business Helping to strengthen and grow RCT's economy	Supporting people into rewarding career pathways, skilled and secure work
	Supporting businesses to prosper and be sustainable
	Thriving town centres
	A well-connected County Borough
Nature & the Environment A green and clean RCT that improves and protects RCT's environment and nature	Protecting and enhancing the natural environment
	Clean, safe and sustainable RCT
	Using nature assets to benefit people and communities
Culture, Heritage & Welsh Language Recognising and celebrating RCT' past, present and future	A RCT where culture and heritage is vibrant and difference is celebrated in strong communities that enhance well-being
	Celebrating and preserving the historical, cultural, industrial & sporting heritage of Rhondda Cynon Taf

Each Objective contains a number of priorities and aspired to outcomes. Of particular note to Local Air Quality Management is that within the “Nature and Environment” theme, a specific priority is referenced as “improving air quality through traffic management, encouraging the use of low carbon travel options and implementing the Environment (Air Quality and Soundscapes)(Wales) Act 2025” and an associated outcome is described as “improved air quality across the County Borough”.

6.6.2 Well-being Objectives

In addition to the Priorities within its Corporate Plan, the Cwm Taf Morgannwg Well-Being Plan [39] has the following Well-being Objectives:

- Healthy Local Neighbourhoods that are inclusive and feel cohesive and people feel safe, supported, and valued.
- Sustainable & Resilient Local Neighbourhoods where we understand and respond to the risk of climate change to our communities.

As part of the delivery of these well-being objectives, [National Indicators and Milestones](#) have been produced, including one for air quality [40]. It is expected that this will also require consideration of air quality in the form of a broader ‘pollution burden reduction approach’. This currently differs to that of the compliance approach enacted by the historic local air quality management regime, which targets levels of air pollution which has exceeded a defined level regardless of the number of people likely to be affected. Instead, the burden reduction approach considers that it can be beneficial to reduce pollution affecting a large number of people regardless of its absolute level. Even if the reduction is a small amount the overall benefit can be great if a large number of people are affected. Nonetheless, it is anticipated that both routes to air quality improvement will act in collaboration where possible.

To enable the evaluation of a burden reduction approach, the Welsh Government has made available rankings [11] of each Local Authority based upon the modelled background concentration for NO₂, PM₁₀ and PM_{2.5} for each 1km², referenced to the number of dwelling associated within each km². The comparison to the most recently published data ranks is available at the start of Section 4.3.1 Nitrogen Dioxide [NO₂] and Section 4.3.5 Particulate Matter [PM₁₀] respectively.

It is acknowledged, that in a resource limited system it can be beneficial to focus actions to maximise the public health benefits of intervention. In considering the pollution burden reduction approach, it is often the case that disadvantaged communities are more likely to observe adverse health inequalities which could benefit from improvements in local air quality. Therefore, given similar population sizes, targeting action at communities which experience elevated levels of air pollution as well as deprivation would likely deliver greater public health benefit if compared to targeting action only at a more affluent community.

Collaborative work with Public Health Wales and Cwm Taf Morgannwg University Health Board enabled the consideration of various statistics which best highlight the communities which are most likely to be detrimentally affected by air quality in combination with known air quality data. This resulted in the production of a Health and Air Pollution Risk Assessment/Area Prioritisation (HAP-RAP) tool, which can help to identify locations where actions to improve air quality may have the greatest benefit to local communities. Provisional

use of the HAP-RAP tool potentially identified two clusters, one based around Mt Ash and Penrhiwceiber and the other based around Cymmer, Ferndale and Tylorstown, where air quality improvements may well have the greatest benefit to the community. Each current AQMA has been assessed against HAP-RAP prioritisation and where the AQMA and the MSOA (the zones used by HAP-RAP) match this has been highlighted (see Section 3.2).

It may become incumbent upon the members of Cwm Taf Morgannwg Public Service Board to consider their service delivery and the potential for positive action to be taken to holistically improve overall air quality. It may also be a requirement for partners to provide annual updates and reviews of progress in furthering achievement of the well-being objectives.

It is uncertain as to the practical extent of interaction between the work towards implementing the Cwm Taf Morgannwg Well-Being Plan and the current local air quality management regime. As a result, the Local Authority will, for the foreseeable future, continue to produce AQAPs as standalone statutory plans as well as separate local air quality management progress reports. This position will be reviewed should future statutory guidance require a harmonised approach to actions and reporting.

6.7 Green Infrastructure Plans and Strategies

The Local Authority recognises the importance of green infrastructure to public health and the environment, as well as it being an important potential resource in the improvement of local air quality or protecting communities from elevated levels of air pollutants. The Local Authority has adopted a Biodiversity Duty Action Plan [41] which outlines its goals, and how it will go about trying to achieve them, with respect to local Biodiversity within its area other than that which is also within the Bannau Brycheiniog National Park. It has also issued its 'Action for Nature - Local Nature Recovery Action Plan for Rhondda Cynon Taf', which provides an assessment of the many habitats and ecologies within Rhondda Cynon Taf and the importance they may have in tackling a range of environmental concerns as well as the actions we can all take to help local nature recover and contribute to tackling the declared 'nature emergency' in Wales [42].

The Local Authority continues to assess ways in which recovery, protection and enhancement of green assets can bring real benefits to a diverse range of policy areas including flood prevention, active travel and climate change. As an example, the Local Authority engaged with the Queen's Green Canopy Project with the aim to protect existing woodland areas whilst providing an enhanced role for urban tree planting. This may provide distinct opportunities in protecting or bringing forward green infrastructure that may have a role in assisting local air quality management.

The Local Authority also continues to consider the benefits of actions which could improve green infrastructure as part of its other activities. In doing so, the Local Authority will continue to build upon internal mechanisms to enable knowledge sharing and coordination between ecological & countryside management and local air quality management.

6.8 Climate Change Strategies

With the declaration of a 'Climate Emergency' by Welsh Government, the Local Authority is clear that it must play its part in taking urgent action. The Local Authority has regard to climate change both by actions it may undertake to reduce its contribution to climate change

and also the actions that maybe required to mitigate the impact of climate change upon service delivery. The Local Authority also recognises its dual role in leading and supporting people, business and the wider community in better understanding and contributing to efforts to tackle climate change.

To emphasise its part in taking action to tackle Climate Change, the Local Authority has adopted four ongoing 'Climate Commitments', reproduced in Table 6-6 below, that are to be achieved by 2030.

Table 6-6: Local Authority's Climate Commitments to be achieved by 2030

Commitments	
1.	The Local Authority will have become carbon neutral.
2.	Enable the whole County Borough to be as close as possible to carbon neutral.
3.	Working with partners to enable all public and private organisations that operate in the County Borough to become carbon neutral.
4.	Contribute to the Welsh Government's ambition of a Net Zero public sector by 2030.

The Local Authority recognises that it is making progress to tackle Climate Change, but we all need to do more, and faster, if we are to reduce carbon emissions, help to reverse the damage to the planet and adapt to the changes already happening within the county borough. To help realise its Climate Commitments and encourage others to also commit to real change, the Local Authority has adopted a Climate Change Strategy [43]. This strategy incorporates a number of specific goals, aligned to its Climate Commitments, to be achieved by 2030, as well as a range of actions that work towards achieving these goals.

The strategy recognises the potential synergistic effects actions to tackle climate change can have on other agendas, including local air quality management, and vice versa. Several of the climate change actions included within the strategy, as highlighted in Table 6-7 below, also have specific regard to improving local air quality, whilst many of the other climate change actions within the strategy are also likely to indirectly compliment local air quality management.

Table 6-7: Climate Change Actions and Local Air Quality Management

Complimentary Climate Change Actions	
1.	Contributing to safer roads and improvements in air quality by introducing default 20 mph speed as required by Welsh Government's commitment to support Active Travel as well as provisions that emerge from the proposed Clean Air legislation in Wales.
2.	Encouraging people to support improvements in air quality by promoting good driving behaviours including implementing no idling zones and reduced speed limits
3.	Using natural planting in public areas of our town centres to improve air quality and well-being, reduce flood risk, provide cooling during heatwaves and other climate benefits for residents
4.	Commitment to support active travel and sustainable public transport within and connecting to Rhondda Cynon Taf

The Local Authority will continue to provide strong community leadership and create a cleaner, greener environment for people and businesses to be independent, healthy and prosperous and for natural ecosystems to thrive. It will play its part in tackling climate change

and protecting the planet and also adapting our services and operations so that it is able to meet the climate challenges ahead.

7. Conclusions and Proposed Actions

7.1 Conclusions from New Monitoring Data

As supported by the most recent monitoring results, it is apparent that the consistent long-term improving trend in NO₂, throughout nearly all of the County Borough, reinforces the understanding that the vast majority of Rhondda Cynon Taf is expected to continue to show levels of NO₂ that are well within compliance to the relevant AQOs for NO₂. In 2025, levels of NO₂ continued to reduce, moving from the period of flux brought about by COVID related disruption between 2020 and 2022 and building upon the considerable improvements in the levels of NO₂ observed between 2016 to 2019. Given this trend and known societal and economic change, there is a strong expectation that levels of NO₂ should continue to improve into the near future. With the hope that the gradual adoption of new transport technologies will continue to significantly spur greater improvement in the longer-term future. Albeit uncertainty, notably associated to a changing climate, will continue to complicate short to medium term predictions.

Even with the demonstrative improvements in NO₂ levels observed over time, there remain localised areas within Rhondda Cynon Taf which have observed elevated levels of NO₂, that were on occasion in the past above or at risk of being above the relevant AQOs for NO₂, and because of this have been included within an AQMA. Since the declaration of these AQMAs, many of these locations have observed a significantly improving air quality situation. It is acknowledged that although widespread improvement in the levels of NO₂ has been observed, it remains the case, that these AQMAs may still observe a risk of non-compliance to the annual mean AQO for NO₂ in the near-term. As such, the Cymmer, Ferndale, Mt Ash Town Centre, Nightingales Bush, Pontypridd Town Centre and Tylorstown AQMAs, although having experienced significant improvement in recent years, may potentially remain at risk of being non-compliant to the annual AQO for NO₂ into the near-future, whilst the improving situation continues to manifest.

Other pollutants of concern such as SO₂ and PM₁₀, which tend to be associated with emissions from heavy industry or large conurbations, are, in general, not considered to be as prominent any longer within Rhondda Cynon Taf. However, monitoring has previously identified the area of Glyncoch as experiencing levels of PM₁₀ notably above what would otherwise be predicted by national modelling.

Analysis of the monitoring of PM₁₀ at Garth Avenue, Glyncoch from 2025, supports understanding that, local and wider environmental influences continue to have an important role in the local experience of elevated levels of PM₁₀. With regard to 2025, it continued the experience of an undulating annual mean, subject to a degree of oscillation. Although over the extended period a slight improving trend may be apparent. In addition, the number of occasions when the daily mean of 50 µg m⁻³ were exceeded potentially remains consistent (having regard to the 90.4th percentile) with preceding years. As such the PM₁₀ results from 2025, in alignment with the past, continues to indicate that Site No. 130 (Upper Garth Avenue) is likely to be compliant to both the current annual mean and the 24-hour daily mean AQOs for PM₁₀.

Although PM_{2.5} remains relevant to the overall understanding of particulate matter at Garth Avenue, Glyncoch, it appears less aligned to the notable potential very local influences on PM₁₀ when PM₁₀ is most elevated. This distinctive pattern further underlies the local situation at Garth Avenue, Glyncoch and the likely significant influence that various operations at Craig Yr Hesg Quarry may have on locally observed PM₁₀.

As it is difficult to predict the future trend at Glyncoch, especially with regard to the 24-hour daily mean AQOs for PM₁₀ which may be more influenced by shorter duration meteorological effects and known local sources of PM₁₀. The Local Authority will continue to engage with the operators of Craig Yr Hesg Quarry, to attempt to mitigate the impact of the site activities on the surrounding community, and with the local community, so as to further understand concerns and examine ways of improvement. It is recognised that the continuation of monitoring is necessary to ensure any future changes, which have the potential to impact on the local prevalence of PM₁₀, can be fully considered.

In its consideration of local air quality, it has been necessary for the 2026 Air Quality Progress Report to rely upon a local air quality monitoring network and its analysis. The Local Authority will aim to continue as far as is reasonable to preserve its monitoring network and comply with the required reporting regime. However, the impact of financial uncertainty will need to be considered and will influence the amount of funding available to carry out future local air quality management duties.

7.2 Conclusions relating to New Local Developments

The Local Authority considers air quality can be a material planning consideration. As such, the Local Authority will, when necessary, take account of the implications of any development upon local air quality during the planning consent decision making process. Consequently, the Local Authority will attempt to ensure that, if necessary, future developments will negate or mitigate any negative impacts on local air quality whilst continuing to treat each application for planning consent on its individual merits.

To help tackle the non-compliance of the NO₂ EU Limit Value associated with the A470, Welsh Government and its South Wales Trunk Road Agent implemented a major programme of air quality improvement measures. As part of this programme, the designated speed limit of parts of the A470 were reduced from 70mph to 50mph to help reduce vehicle traffic emissions. This intervention continues to have substantial impact upon reducing local levels of NO₂ and helping to work towards achieving sustainable compliance within the Nightingales Bush AQMA. Given the beneficial impact of this measure on local air quality the Local Authority will advocate for its retention until such time as compliance to the annual mean AQO for NO₂ has been sustainably achieved within the Nightingales Bush AQMA.

It is the case that systemic regional transport infrastructure improvement, such as the electrification of the South Wales Core Valleys Railway electrification, or major local projects to relieve existing over-used road infrastructure, such as the Church Village Bypass, or changing the way existing road infrastructure is used, such as reducing the default speed limit to 50 mph along parts of the A470, can deliver significant improvements in local air quality. It is also the case that a wide range of local measures that support behavioural changes, such as £1.50 subsidised bus fares during parts of the year or information to support

sustainable travel options in the Pontypridd area, can help to bring about important improvements to local air quality.

Underlying these improvement measures so far is how concerted action at all levels of society and the inclusion, as far as possible, of all parts of the community is vital in bringing about sustained improvement in local air quality.

7.3 Other Conclusions

The Local Authority acknowledges that many different policies and actions undertaken by it may have a direct or indirect effect on local air quality. The Local Authority will continue to take account, where necessary, of local air quality during any relevant decision making process. It will also aim, wherever possible, to promote policies and actions which will maintain or be conducive to good air quality and any synergistic effects such actions may have on other service deliveries.

There are many issues underlining non-compliant air quality, which are also significant in the broader Active Travel, Climate Change, Environmental Noise and Biodiversity Agendas. Effective solutions to improve air quality can supplement efforts in tackling climate change and environmental noise. Close integration with the Active Travel Agenda, Climate Change Agenda and Noise Action Plan Priority Areas will continue to be aspired to in future local air quality management. It is also clear that, without intervention, local air quality within the most vulnerable areas of Rhondda Cynon Taf may improve less quickly. As the Local Authority updates strategic plans, for instance the Local Development Plan, it will use this opportunity to revise current provisions to ensure they remain pertinent and, where possible, maximise air quality improvement benefits.

The Local Authority has adopted individual AQAPs, see Appendix E2: Current Air Quality Action Plans, for each of its extant AQMAs. These AQAPs contain a range of recommended actions, both those that are locally targeted and those with a broader effect. Due to the availability of limited resources and competing agendas, it may not be possible to immediately implement all AQAP actions. However, the Local Authority continues, where possible, to implement or influence the implementation of actions within its AQAPs. This has included ongoing South Wales Metro delivery, Welsh Government directed speed reductions along a part of the A470, progress in planning potential highway improvement projects and advancing a local strategy to support Electric Vehicle infrastructure. In addition, the Local Authority is progressing further actions to improve usability and awareness of active travel routes, plus encouraging the use of local sustainable transport options and continuing several significant road and transport improvement schemes.

The Local Authority will continue to maintain the AQAPs as living documents and will aim to review them again in 2027, to take account of progress made and the ever-changing nature of local air quality.

The Local Authority is fully committed to openness and transparency in regard to its air quality duties. It will widely disseminate and consult upon the 2026 Air Quality Progress Report, with both interested parties and the public. The Local Authority will, resources and circumstances permitting, aim to ensure continuity of local air quality reporting by producing, in accordance with statutory requirements, an Air Quality Progress Report in 2027.

7.4 Proposed Actions

- The Local Authority will conduct an encompassing and transparent consultation into the findings of this report and all other key steps, in the local air quality management process being undertaken; with all relevant parties and to respond where necessary to feedback given.
- The Local Authority recognises the enhanced benefits which can be brought about by collaboratively working, both within the Local Authority as well as with other interested parties, to deliver a multi-benefit agenda which can directly improve local air quality. The Local Authority will look to build upon existing and new partnerships to deliver coordinated action in the delivery of local air quality management and that of other related agendas.
- Whilst delivering local air quality management duties, the Local Authority will have regard to any noise action planning priority areas as well as other relevant agendas, such as Climate Change, Active Travel and Green Infrastructure. It will continue to work with relevant stakeholders to ensure close integration with other environmental agenda and aspire to “win win” solutions.
- The Local Authority will continue to utilise existing resources as effectively and efficiently as possible to provide a greater understanding of the causes of non-compliant air quality and its possible solution. To facilitate this, the Local Authority will periodically review its monitoring programmes in light of available resources and new information and changes in understanding, to aspire to ensure targeted comprehensive assessment of the most at risk locations. Where necessary, and resources permitting, it will consider repurposing or establishing new monitoring sites to provide enhanced understanding of any potentially affected area.
- The Local Authority will look to review extant Air Quality Action Plans, to ensure that they remain pertinent and capable of delivery, by September 2027.
- Dependent upon the availability of resources and circumstances, in September 2027 the Local Authority will produce an Air Quality Progress Report, which will aim to maintain a level of continuity of air quality review and assessment based on the latest available data.

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9. Appendix A1: Monthly Diffusion Tube Monitoring Results

Table A.9-1: Full Monthly Diffusion Tube Results for 2025

Site ID	NO ₂ Mean Concentrations (µgm ⁻³)												Annual Mean		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.88 Factor) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
4	17.2	16.4	13.5	11.3	6.9	5.3	5.0	5.7	7.7	10.4	11.2	10.5	10.1	8.9	
8	39.7	42.0	32.1	26.0	31.5	25.0	19.4	26.7	28.2	32.8	42.7	28.6	31.2	27.5	
21	7.7	10.0	6.5	4.9	4.0	2.8	2.4	3.6	3.9	4.3	5.9	4.4	5.0	4.4	
37	32.7	33.1	23.2	-	-	17.3	-	23.8	25.2	30.8	37.3	26.4	27.8	22.7	20.5
41	44.4	40.3	-	30.9	37.3	33.4	30.3	34.2	39.9	34.0	41.5	39.7	36.9	32.5	
44	28.5	31.9	28.7	24.9	19.0	14.4	18.5	18.9	20.5	26.8	20.9	21.4	22.9	20.1	24.4
47	30.6	29.8	24.8	19.2	14.6	14.3	12.1	15.6	16.5	19.9	23.2	19.3	20.0	17.6	
48	27.4	27.7	24.0	19.5	13.7	15.9	12.6	13.8	12.7	18.9	21.3	19.5	18.9	16.6	
50	27.7	25.5	25.0	19.0	13.2	15.7	12.3	13.4	15.9	20.4	25.0	20.3	19.5	17.1	
51	31.9	35.5	29.3	25.1	-	21.6	17.7	18.1	20.6	19.9	24.7	23.7	24.4	21.4	
52	37.9	42.4	31.6	25.2	23.7	-	-	19.2	21.9	24.7	36.5	31.3	29.4	25.9	
53	32.4	36.3	28.4	24.3	24.5	24.8	17.1	-	20.4	23.6	34.6	32.7	27.2	23.9	
55	29.4	34.7	30.7	27.0	22.7	19.5	17.5	22.2	21.2	25.3	19.8	20.1	24.2	21.3	
56	41.6	42.0	35.6	33.5	24.0	19.2	16.3	22.7	25.5	31.1	41.9	38.4	31.0	27.3	
66	38.9	37.5	33.6	26.9	22.1	16.3	15.0	22.2	21.8	25.1	37.5	28.1	27.1	23.8	
68	27.2	33.1	-	22.0	23.7	18.7	-	-	19.6	22.4	32.5	23.8	24.8	20.8	
69	32.6	32.6	27.7	24.0	15.0	15.6	13.9	15.1	18.9	24.7	34.3	27.7	23.5	20.7	

Site ID	NO ₂ Mean Concentrations (µgm ⁻³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.88 Factor) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
76	32.2	30.0	28.0	26.6	23.7	15.7	13.9	20.4	19.6	25.0	36.3	21.9	24.4	21.5	-
79	32.4	-	26.7	23.1	18.2	17.3	13.6	17.4	19.5	19.8	28.6	24.8	21.9	19.3	-
80	28.2	27.0	24.4	19.2	16.0	16.1	12.7	11.1	18.2	21.7	23.5	23.5	20.1	17.7	-
81	37.3	37.2	31.8	33.2	25.2	18.9	14.3	20.7	21.3	27.1	32.3	36.5	28.0	24.6	-
82	32.3	27.0	12.7	23.1	17.8	15.4	12.5	13.2	18.7	18.2	32.6	17.4	20.1	17.7	16.0
83	32.2	33.5	32.5	25.4	18.9	17.6	16.3	21.2	20.0	26.3	25.8	24.8	24.5	21.6	-
84	-	44.4	38.1	29.0	25.1	22.3	22.8	27.3	24.1	33.2	30.4	29.0	29.6	26.1	-
85	37.8	27.7	26.2	23.8	19.8	18.5	14.2	15.5	21.0	19.6	34.0	22.5	23.4	20.6	-
88	31.7	35.7	32.4	27.7	24.3	23.2	15.4	23.5	25.0	28.7	34.2	29.2	27.6	24.3	-
90	39.1	36.5	28.5	29.3	27.0	24.9	20.7	13.9	20.7	30.6	28.4	31.1	27.6	24.3	-
91	53.1	50.2	45.7	35.9	36.8	30.5	25.5	33.4	29.0	39.8	43.8	34.0	38.1	33.6	-
93	51.5	43.8	--	38.7	-	33.7	27.8	28.3	38.4	36.5	37.0	32.4	36.8	32.4	-
96	35.7	36.0	29.3	32.8	30.9	27.4	19.9	27.1	26.2	28.1	46.0	35.6	31.3	27.5	-
97	46.3	46.3	34.2	35.7	35.0	37.1	20.9	28.5	33.4	37.0	39.5	35.6	35.8	31.5	-
101	9.1	8.7	6.7	6.7	4.5	3.0	2.2	3.3	5.0	4.6	6.0	4.2	5.3	4.7	-
103	8.9	9.1	7.9	7.1	4.9	4.7	5.7	4.0	5.4	4.3	6.2	4.6	6.1	5.3	-
105	9.6	13.5	9.4	8.2	4.9	3.8	3.1	3.9	4.9	5.9	6.7	7.2	6.8	5.9	-
106	30.4	29.7	26.8		24.1	24.7	23.9	18.3	23.7	29.4	27.3	28.0	26.0	22.9	-
107	38.3	37.5	35.2	32.3	23.7	26.3	20.7	22.6	32.5	27.7	28.8	26.8	29.4	25.8	-
108	48.9	57.3	44.8	41.2	30.5	30.0	25.8	30.8	31.2	44.3	40.9	39.6	38.8	34.1	-
110	30.0	31.1	-	-	20.3	15.1	13.5	18.8	20.6	20.5	32.1	23.1	22.5	19.8	-

Site ID	NO ₂ Mean Concentrations (µgm ⁻³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.88 Factor) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
111	37.2	31.8	23.6	26.4	24.7	21.9	21.1	21.4	22.7	28.9	31.4	23.4	26.2	23.1	-
113	33.9	30.7	21.2	23.3	21.6	20.5	17.5	20.4	23.4	23.6	32.1	19.4	24.0	21.1	-
114	29.8	27.5	26.6	18.8	13.3	14.9	11.0	12.7	16.4	21.3	22.3	21.4	19.7	17.3	-
117	53.3	49.0	-	-	37.4	35.1	35.6	30.1	35.0	42.3	42.5	25.5	38.6	34	-
118	59.5	57.2	41.2	50.6	45.7	43.0	42.1	44.6	41.3	51.0	44.8	40.9	46.8	41.2	-
122	31.4	27.2	21.4	21.3	19.0	15.7	17.3	16.5	19.2	18.5	27.0	-	21.3	18.8	-
124	27.6	22.9	20.1	18.9	16.7	15.1	18.1	14.5	13.8	23.3	22.5	15.5	19.1	16.8	-
128	35.6	36.1	-	-	-	12.8	12.1	19.0	21.5	24.2	33.7	27.3	24.7	21.9	-
129	-	25.2	20.7	16.5	14.7	13.8	10.6	10.6	15.2	13.8	23.8	18.6	16.7	14.7	13.9
132	29.5	29.6	23.9	-	14.2	17.3	19.8	16.0	17.3	21.0	28.1	22.4	21.7	19.1	-
134	19.1	18.9	18.0	17.7	10.9	7.5	7.2	15.4	11.2	13.2	18.2	16.6	14.5	12.8	11.2
135	27.4	27.2	25.3	20.2	17.2	11.2	9.8	13.3	15.6	21.7	24.2	23.1	19.7	17.3	14.7
136	39.0	30.8	27.6	30.2	26.9	22.1	24.0	24.0	26.4	31.7	32.1	-	28.6	25.2	-
137	38.4	26.5	26.1	22.6	19.6	18.5	14.6	17.4	21.9	26.4	27.7	24.9	23.7	20.9	-
138	32.9	33.2	27.5	23.2	15.2	20.4	14.7	19.8	18.3	26.6	28.4	23.5	23.6	20.8	-
139	19.1	21.0	19.4	13.2	11.9	5.5	8.0	9.9	11.3	15.8	17.5	14.6	13.9	12.3	10.9
140	26.9	29.0	20.1	28.1	24.9	26.4	17.1	21.0	27.1	34.9	25.7	26.7	25.7	22.6	-
141	29.6	28.8	-	20.4	17.8	13.9	10.7	16.4	19.6	20.6	27.2	24.7	20.9	18.4	17.8

Table Notes

Exceedances of the NO₂ annual mean objective of 40 µgm⁻³ are shown in bold.

Exceedances of the NO₂ 1-hour mean objective (200 µgm⁻³ not to be exceeded more than 18 times per year) or otherwise NO₂ annual means exceeding 60 µgm⁻³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in bold and underlined.

- (1) See Appendix C for detail on bias adjustment and annualisation
- (2) Means for diffusion tubes have been corrected for bias with means labelled with a ‡ having been “annualised” as per Boxes 7.9 and 7-10 in LAQM.TG22, as their valid data capture for the full calendar year is less than 75%. See Appendix C for details.

10. Appendix B: Summary of Local Air Quality Management

10.1 Purpose of an Annual Air Quality Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment Act 1995 and associated government guidance. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas and to determine whether or not the air quality objectives are being achieved. Where exceedances occur, or are likely to occur, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) within 18 months of declaration setting out the measures it intends to put in place in pursuit of the objectives. Action plans should then be reviewed and updated where necessary at least every 5 years.

For Local Authorities in Wales, an Annual Progress Report replaces all other formal reporting requirements and have a very clear purpose of updating the general public on air quality, including what ongoing actions are being taken locally to improve it if necessary.

10.2 Air Quality Objectives

The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138), Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298), and are shown in Table B.1.

Table B.1: AQOs Included in Regulations for the purpose of LAQM in Wales

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Nitrogen Dioxide (NO ₂)	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40µg/m ³	Annual mean	31.12.2005
Particulate Matter (PM ₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2010
	40µg/m ³	Annual mean	31.12.2010
Sulphur dioxide (SO ₂)	350µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	16.25µg/m ³	Running annual mean	31.12.2003
	5µg/m ³	Annual mean	31 12 2010

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
1,3 Butadiene	2.25µg/m ³	Running annual mean	31.12.2003
Carbon Monoxide	10.0mg/m ³	Maximum Daily Running 8-Hour mean	31.12.2003
Lead	0.25µg/m ³	Annual Mean	31.12.2008

The table shows the objectives in units of microgrammes per cubic metre µg/m³ (milligrammes per cubic metre, mg/m³ for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

11. Appendix C1: Air Quality Monitoring Data QA/QC

Air quality monitoring often produces a large amount of data which, due to its quantity, can be difficult to interpret. Therefore, it is essential to utilise accepted statistical techniques to process and interpret it. In line with current practice the Local Authority has made use of the 'Openair Package' [44], in combination with other significant R packages, within RStudio [45], version 2026.05.18, as operated within the open-source R-Programme [46] computational language for environmental statistical computing and graphics, version 4.5.0 In addition, the Local Authority has made use of the open-source PostgreSQL Database with postgis version 17. These utilities, with the aid of published literature, has enabled the Local Authority to undertake verification and validation of the monitoring data as well as various types of descriptive and inferential statistical analysis.

In addition to the statistical analysis and graphical representation mentioned above, the Local Authority has also made use, with the aid of published literature, of the GIS package QGIS version QGIS 3.44.2 'Solothurn' [47]. This has enabled the Local Authority to spatially assess and depict air quality monitoring data as well as associated geometries.

11.1 QA/QC of Diffusion Tube Monitoring

In 2025 the Local Authority made use of fifty-six Nitrogen Dioxide 'Palmer type' passive diffusion tubes which were exposed for a period of one month at a time, in accordance with the published 2025 NO₂ Diffusion Tube Monitoring Calendar, at fifty-four monitoring locations (one location being a triplicate collocation site).

Collected Nitrogen Dioxide passive diffusion tubes were analysed by SOCOTEC Ltd's Didcot Laboratory using in-house laboratory method ANU/SOP/1015, 20% TEA in water method. The analysis was in accordance with their United Kingdom Accreditation Service [UKAS] schedule, with laboratory performance evaluated via the AIR Proficiency Testing Scheme¹⁵; achieving the highest rank of "satisfactory" [48].

11.1.1 Diffusion Tube Bias Adjustment Factors

It has been shown that passive diffusion tubes require bias correction in accordance with guidance to maximise their accuracy. The quoted desired accuracy for the measurement of NO₂ is 15%; the use of a bias factor from a suitable co-location study ensures that passive diffusion tube measurements attempt to meet this requirement.

Table C.1 below provides the collated local bias adjustment factors derived and provided by other users of the Nitrogen Dioxide diffusion tube monitoring method and laboratory, as used by the Local Authority, as well as a statistically derived overall national bias adjustment factor [49].

¹⁵ Formerly the Workplace Analysis Scheme for Proficiency [WASP]

Table C.1: National Diffusion Tube Bias Adjustment Spreadsheet for 2025

National Diffusion Tube Bias Adjustment Factor Spreadsheet					Spreadsheet Version Number: 06/26					
Follow the steps below in the correct order to show the results of relevant co-location studies								This spreadsheet will be updated at the end of September 2026 LAQM Helpdesk Website		
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods										
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet										
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.										
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.					Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.					
Step 1:		Step 2:	Step 3:	Step 4:						
Select the Laboratory that Analyses Your Tubes from the Drop-Down List		Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column.						
If a laboratory is not shown, we have no data for this laboratory.		If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data ²	If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953						
Analysed By ¹	Method	Year ²	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁵	Bias Adjustment Factor (A) (Cm/Dm)
SOCOTEC Didcot	20% TEA in water	2025	KS	Marylebone Road Intercomparison	12	46	31	46.5%	G	0.68
SOCOTEC Didcot	20% TEA in water	2025	R	South Oxfordshire And Vale Of White Horse District	9	18	15	23.3%	G	0.81
SOCOTEC Didcot	20% TEA in water	2025	R	South Oxfordshire And Vale Of White Horse District	12	20	17	15.7%	G	0.86
SOCOTEC Didcot	20% TEA in water	2025	R	South Oxfordshire And Vale Of White Horse District	12	25	22	12.3%	G	0.89
SOCOTEC Didcot	20% TEA in water	2025	R	Nfddc	12	27	20	37.1%	G	0.73
SOCOTEC Didcot	20% TEA in water	2025	R	Rhondda Cynon Taf Cbc	11	19	16	14.0%	G	0.88
SOCOTEC Didcot	20% TEA in water	2025	R	London Borough Of Ealing	11	29	24	19.7%	G	0.84
SOCOTEC Didcot	20% TEA in water	2025	R	London Borough Of Ealing	12	34	29	17.5%	G	0.85
SOCOTEC Didcot	20% TEA in water	2025	KS	Fife Council	12	21	16	27.1%	G	0.79
SOCOTEC Didcot	20% TEA in water	2025	R	Fife Council	12	17	13	31.9%	G	0.76
SOCOTEC Didcot	20% TEA in water	2025	R	Fife Council	12	16	13	29.9%	G	0.77
SOCOTEC Didcot	20% TEA in water	2025	R	Fife Council	12	16	14	14.2%	G	0.88
SOCOTEC Didcot	20% TEA in water	2025	Overall Factor ³ (12 studies)					Use	0.81	

11.1.2 Factor from Local Co-location Studies

A Local Co-location Bias factor has also been produced by co-locating three passive diffusion tubes at the automatic NO₂ monitoring site located at Site No. 70 (Broadway), for the length of the study period. It is believed that Site No. 70 (Broadway) reflects conditions commonly encountered across Rhondda Cynon Taf. The monitoring site is also maintained to standards observed within the AURN network and annually independently audited by consultants acting on behalf of the WAQF. The data set produced by the local co-location study, in 2025, has been described by the AEA_DifTPAB_vo4.xls spreadsheet [50] as good with an associated data capture rate that was above 80%, with the completed spreadsheet reproduced in Table C.2 below.

Table C.2 – Spreadsheet checking precisions and accuracy of 2025 colocation study

Checking Precision and Accuracy of Triplicate Tubes										AEA Energy & Environment From the AEA group	
Period	Diffusion Tubes Measurements									Automatic Method	
	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean	Period Mean	Data Capture (% DC)
1	08/01/2025	05/02/2025	30.6	27.4	27.7	29	1.8	6	4.4	35.83186	33.6309524
2	05/02/2025	05/03/2025	29.8	27.7	25.5	28	2.2	8	5.3	23.12906	99.8511905
3	05/03/2025	02/04/2025	24.8	24.0	25.0	25	0.5	2	1.3	22.32286	99.4047619
4	02/04/2025	30/04/2025	19.2	19.5	19.0	19	0.3	1	0.6	15.70032	99.8511905
5	30/04/2025	04/06/2025	14.6	13.7	13.2	14	0.7	5	1.8	12	82.2619048
6	04/06/2025	02/07/2025	14.3	15.9	15.7	15	0.9	6	2.2	11	99.8511905
7	02/07/2025	06/08/2025	12.1	12.6	12.3	12	0.3	2	0.6	10	98.452381
8	06/08/2025	03/09/2025	15.6	13.8	13.4	14	1.2	8	2.9	13	99.702381
9	03/09/2025	01/10/2025	16.5	12.7	15.9	15	2.0	14	5.1	14	99.8511905
10	01/10/2025	05/11/2025	19.9	18.9	20.4	20	0.8	4	1.9	16	100
11	05/11/2025	03/12/2025	23.2	21.3	25.0	23	1.9	8	4.6	22.03941	100
12	03/12/2025	07/01/2026	19.3	19.5	20.3	20	0.5	3	1.3	19.51593	99.4047619
13											

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Site Name/ ID:	RCTCBC/070
Precision	12 out of 12 periods have a CV smaller than 20%
Accuracy (with 95% confidence interval) without periods with CV larger than 20%	Bias calculated using 11 periods of data Bias factor A 0.88 (0.83 - 0.94) Bias B 14% (7% - 21%) Diffusion Tubes Mean: 19 μgm^{-3} Mean CV (Precision): 5 Automatic Mean: 16 μgm^{-3} Data Capture for periods used: 98% Adjusted Tubes Mean: 16 (15 - 18) μgm^{-3}
Accuracy (with 95% confidence interval) WITH ALL DATA	Bias calculated using 11 periods of data Bias factor A 0.88 (0.83 - 0.94) Bias B 14% (7% - 21%) Diffusion Tubes Mean: 19 μgm^{-3} Mean CV (Precision): 5 Automatic Mean: 16 μgm^{-3} Data Capture for periods used: 98% Adjusted Tubes Mean: 16 (15 - 18) μgm^{-3}

Overall survey --> Good precision, Good Overall DC (Check average CV & DC from Accuracy calculations)

Jaume Targa, for AEA
Version 04 - February 2011

11.1.3 Discussion of Choice of Factor to Use

Table C.3 lists the local bias factors [Bias A + B] derived from the local co-location study since 2004, as well as the nationally aggregated mean bias factors [49] and their range for comparison, with the factor used for each corresponding year in bold blue font.

Table C.3– Bias Correction Factors for NO₂ Passive Diffusion Tubes

Year	Local Bias Factor [Bias A]	Local Precision Bias [Bias B]	“Good” Data Description	National Bias	
				Factor	Range
2004	1.04	-	✓	0.91	(0.68 – 1.18)
2005	0.98	-	✓	0.97	(0.79 – 1.27)
2006	1.08	-	✓	0.98	(0.87 – 1.07)
2007	1.10	-9	✓	0.89	(0.74 – 1.00)
2008	1.00	0	✓	0.91	(0.79 – 1.00)
2009	1.11	-10	✓	0.90	(0.62 – 1.28)
2010	1.00	0	✓	0.92	(0.61 – 1.20)
2011	1.06	-6	✓	0.89	(0.62 – 1.12)
2012	0.96	4	✓	0.97	(0.58 – 1.32)
2013	1.07	-6	✓	0.85 ^λ	(0.75 – 1.07)
2014	0.90	11	✓	0.79 ^λ	(0.77 – 0.90)
2015	0.96	4	✓	0.81 ^λ	(0.73 – 0.96)
2016	1.0	0	✓	0.83 ^λ	(0.74 – 1.00)
2017	0.91	10	✓	0.74 ^λ	(0.65 – 0.91)

Year	Local Bias Factor [Bias A]	Local Precision Bias [Bias B]	“Good” Data Description	National Bias	
				Factor	Range
2018	0.95	18	✓	0.74 ^λ	(0.59 – 0.95)
2019	0.83	20	✓	0.77	(0.66 – 0.86)
2020	0.81	23	✓	0.74	(0.61 – 0.88)
2021	0.89	12	✓	0.77	(0.66 – 0.89)
2022	0.87	15	✓	0.76	(0.62 – 0.91)
2023	0.96	4	✓	0.76	(0.67 – 0.96)
2024	0.90	11	✓	0.74 ^λ	(0.72 – 0.75)
2025	0.88	14	✓	0.81	(0.68 – 0.89)

^λ it is noted that only two comparative results are available, this very limited number would be expected to increase the uncertainty of the National Bias Factor.

In general terms, it may be considered that a national bias factor may be less influenced by certain types of non-fixed systematic error or otherwise may moderate aberrational errors that could highly influence one-off monitoring studies. However, a local bias factor may be more likely to reflect particular local climatic and regional influences, potentially improving the accuracy of the bias factor. In addition, the Local Authority has a number of years of local bias factors to draw upon, providing context to any particular year and helping to identify unusual results.

Historically only a very few studies made up the national bias factor, weakening its main advantage and leading to the routine use of the local bias factor. Whilst local monitoring data capture in 2025 has been described as good and the results in line with expectations. Given the importance of maintaining continuity with previous years and the fact the local bias factor for 2025 is comparable with the past. The use of the local bias adjustment factor represents a precautionary approach to consideration of results. As such it has been determined that the local bias factor will be used to enable correction, as this may ensure the greatest accuracy and interpretability.

Unless specifically stated all passive diffusion tube results have been corrected using the local bias factor [Bias A] for the respective year. Users of this data should not re-correct the published ratified and validated data.

11.2 Short-Term to Long-Term Data Adjustment

Data Capture is an important element in the interpretation of results. Guidance recommends that 90% data capture over a calendar year is required to facilitate the greatest accuracy in assessment of the concentration of the pollutant. In some instances it has not been possible to reach this threshold; nonetheless, where data capture is still proximal to 90% accurate inference can still be made. Where data capture is significantly less than 90% interpretation may still be possible with the use of mathematical techniques to extrapolate a more robust result. In circumstances where data capture is less than a specified percentage for the technique, the Extrapolated Annual Mean has been derived by interpolation in accordance with the methods detailed within LAQM.TG(22); where undertaken this data manipulation has been recorded in Table C.4 below.

Table C.4 – Short-Term to Long-Term Monitoring Data Adjustment in 2025

Site	Average Annualization Factor	Raw Data Annual Mean ($\mu\text{g}/\text{m}^3$)	Data Capture in 2025 (%)	Annualised Annual Mean ($\mu\text{g}/\text{m}^3$)
37	0.93098424	24.42	75	22.7
68	0.952754282	21.80	75	20.8
128	1.007569161	21.74	75	21.9

11.3 NO₂ Fall-off with Distance from the Road

It may not always be possible to measure NO₂ levels at the worst-case relevant population for a range of practical reasons. Wherever possible, the Local Authority has utilised monitoring locations that are representative of exposure, with 80% of the monitoring locations being <2.5 m away. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure can sometimes be estimated, using the NO₂ fall-off with distance calculator [51], Table C.5 below provides the output of the calculator for 2025 NO₂ monitoring data.

Table C.5 – NO₂ Fall-off with Distance from the Road Adjustment in 2025

Site Name/ID	Distance (m)		NO ₂ Annual Mean Concentration (µg/m ³)			Comment
	Monitoring Site to Kerb	Receptor to Kerb	Background	Monitored at Site	Predicted at Receptor	
RCTCBC/37	2.2	4.1	7.8	22.7	20.5	
RCTCBC/44	9.2	3.8	6.9	20.1	24.4	
RCTCBC/70/NO2	5.2	3.1	7.2	17.9	19.6	
RCTCBC/82	1.6	3.2	6.8	17.7	16.0	
RCTCBC/129	2.1	3.2	6.3	14.7	13.9	
RCTCBC/134	19.8	33.7	6.7	12.8	11.2	Warning: your receptor is more than 20m further from the kerb than your monitor – treat result with caution. Warning: your monitor is more than 10m further from the kerb than your receptor – treat result with caution.
RCTCBC/135	2.1	6.5	7.5	17.3	14.7	
RCTCBC/139	1.9	4.2	4.6	12.3	10.9	Warning: Background NO ₂ concentrations <5µg/m ³ or >50µg/m ³ are rare in the UK – this calculation will still work, but please check your data.
RCTCBC/141	1.3	1.6	5.3	18.4	17.8	

11.4 QA/QC of Automatic Monitoring

During 2025, the Local Authority undertook automatic monitoring at four sites, with three automatic monitoring locations examining NO₂ and one automatic monitoring location examining PM_{2.5} and PM₁₀.

The three automatic monitoring sites for NO₂ each made use of a Model 200E Teledyne Chemiluminescence's Nitrogen Oxides Analysers. The instruments are directly owned and controlled by the Local Authority (Site No. 70 (Broadway), Site No. 120 (Pontypridd) & Site No. 131 (Mt Ash)). Each instrument was inspected by a trained officer on a monthly basis with the necessary calibration checks conducted. The monthly calibrations were conducted using UKAS accredited Nitric Oxide [NO] calibration gas mixtures at a nominal concentration of 450ppb. The calibration method used for the AURN network and validated by external consultants contracted by the Welsh Air Quality Forum [WAQF] was used as far as possible. These monthly calibrations were complemented with twice yearly services by the Local

Authority's service contract engineers, Cura Terrae¹⁶. Additionally, the station at Site No. 70 (Broadway) was audited on an annual basis by consultants working on behalf of the Welsh Air Quality Forum. All data has been processed, validated and ratified by Officers of the Local Authority in accordance to procedures set out in Guidance.

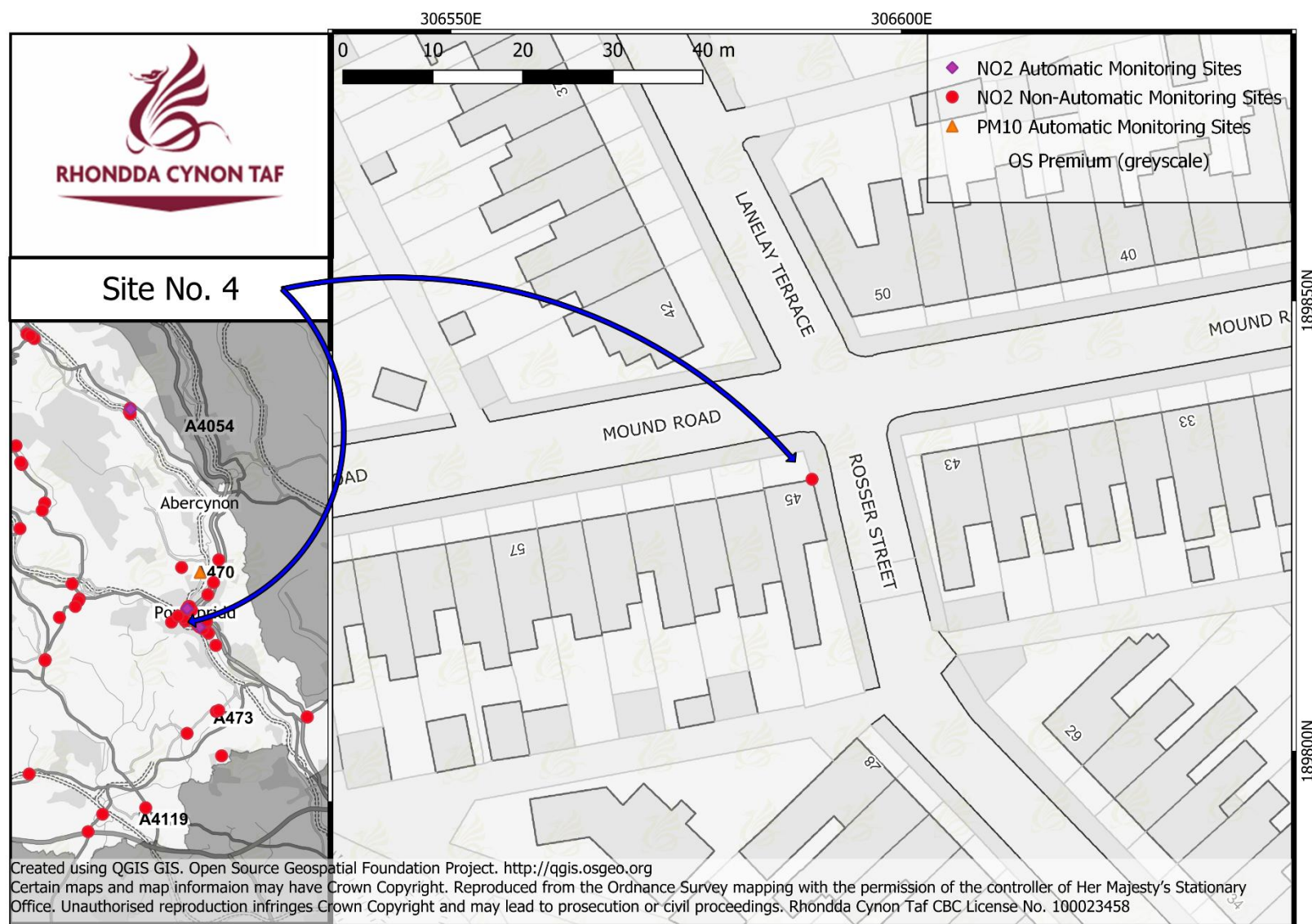
The one automatic monitoring site for PM_{2.5} and PM₁₀ made use of a MCERTS certified optical light scattering Palas FIDAS 200 Method 11 [Site No. 130 (Upper Garth Avenue)]. It is directly owned and controlled by the Local Authority and is periodically inspected by a trained officer. These inspections are complemented with twice yearly routine service by the Local Authority's service contract engineers, Air Monitors. All data gathered by Site No. 130 (Upper Garth Avenue) has been processed, validated and ratified in accordance with procedures, set out in guidance, by Officers of the Local Authority.

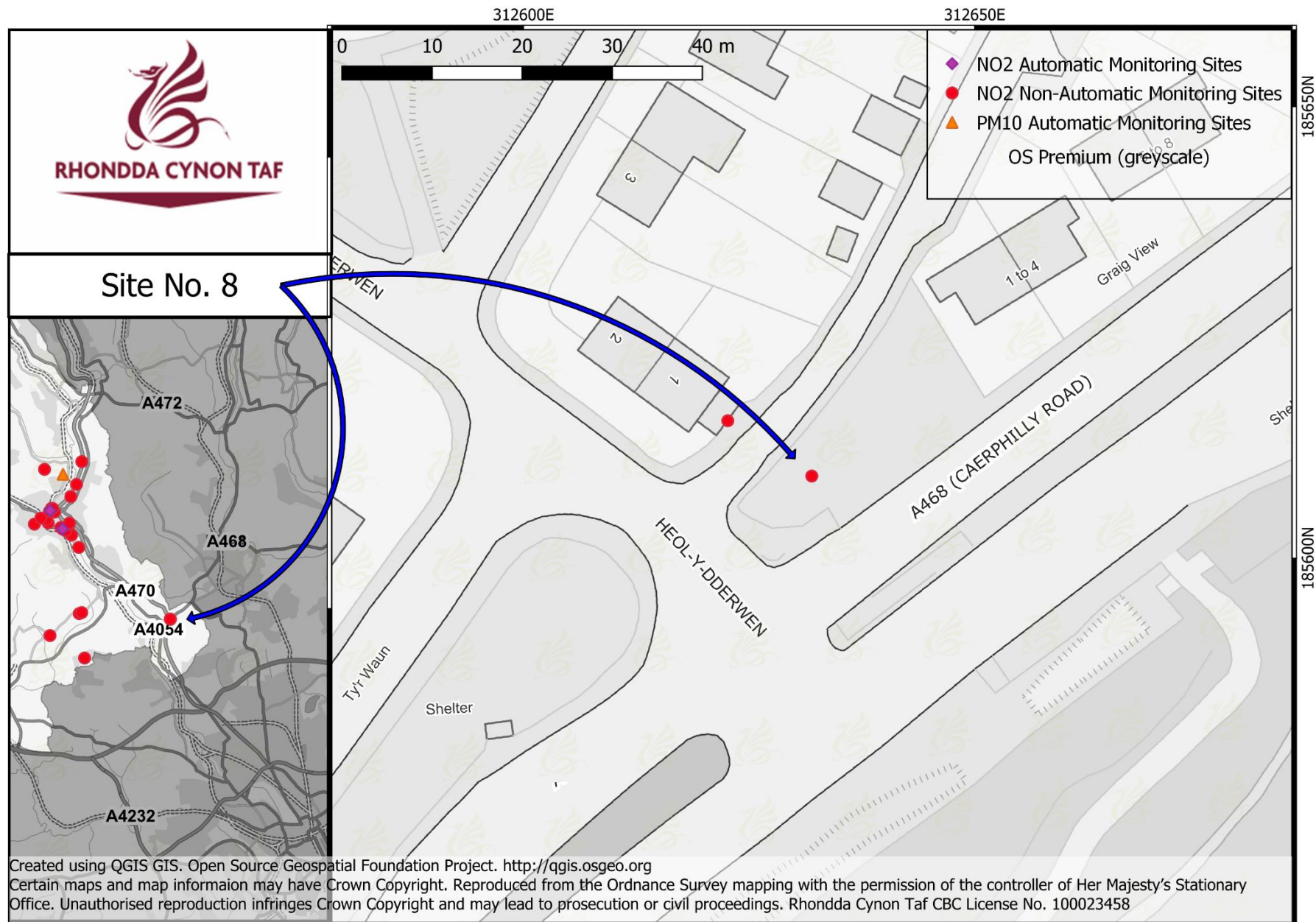
11.4.1 PM₁₀ & PM_{2.5} Monitoring Adjustment

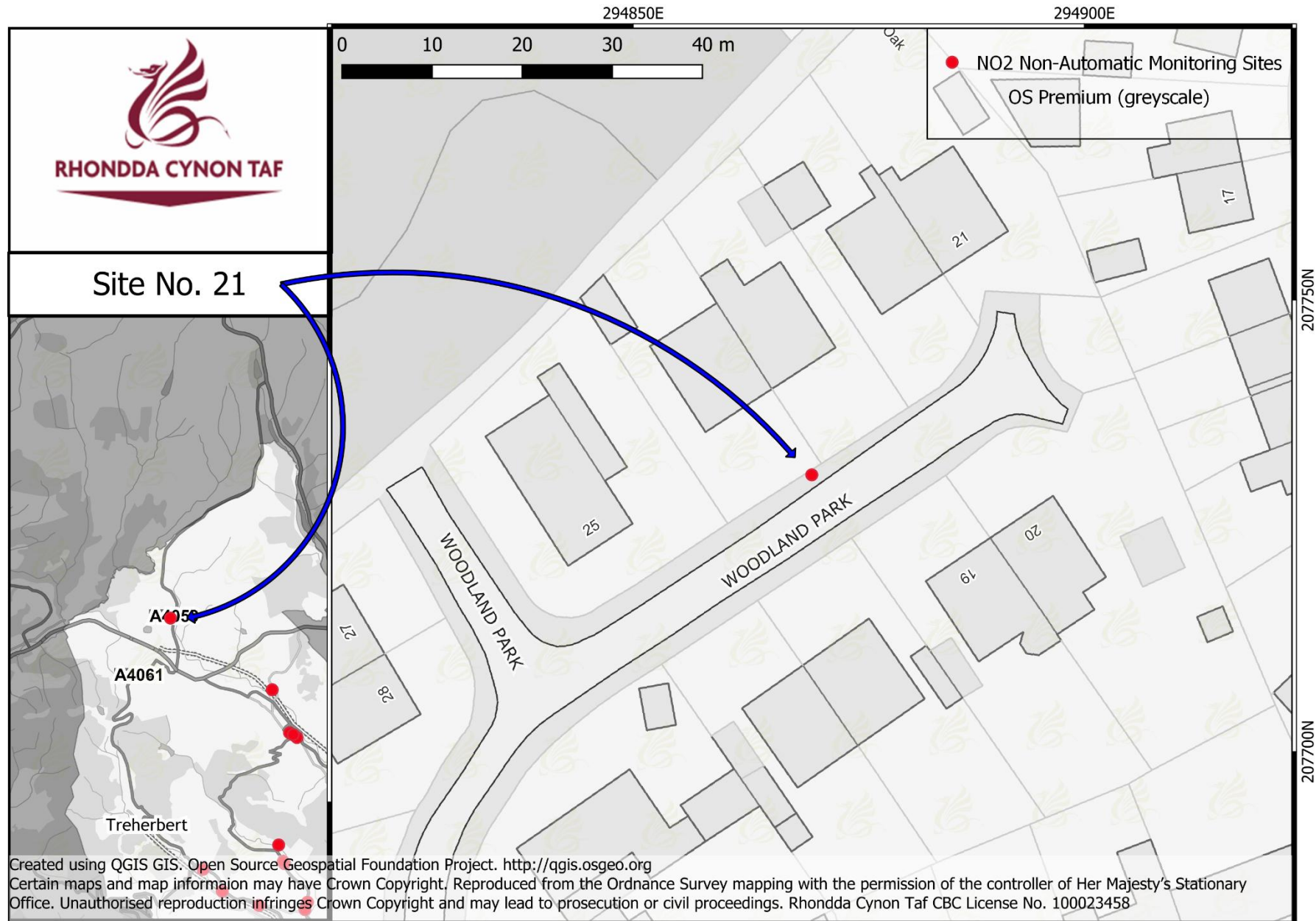
The Local Authority operates a Palas FIDAS 200 Method 11 [Site No. 130 (Upper Garth Avenue)]. The method used involves sampling at ambient conditions, and has been formally considered [52] as an EU equivalent method without correction for PM₁₀ and, with a simple linear adjustment factor (1.06) post data collection, for PM_{2.5}.

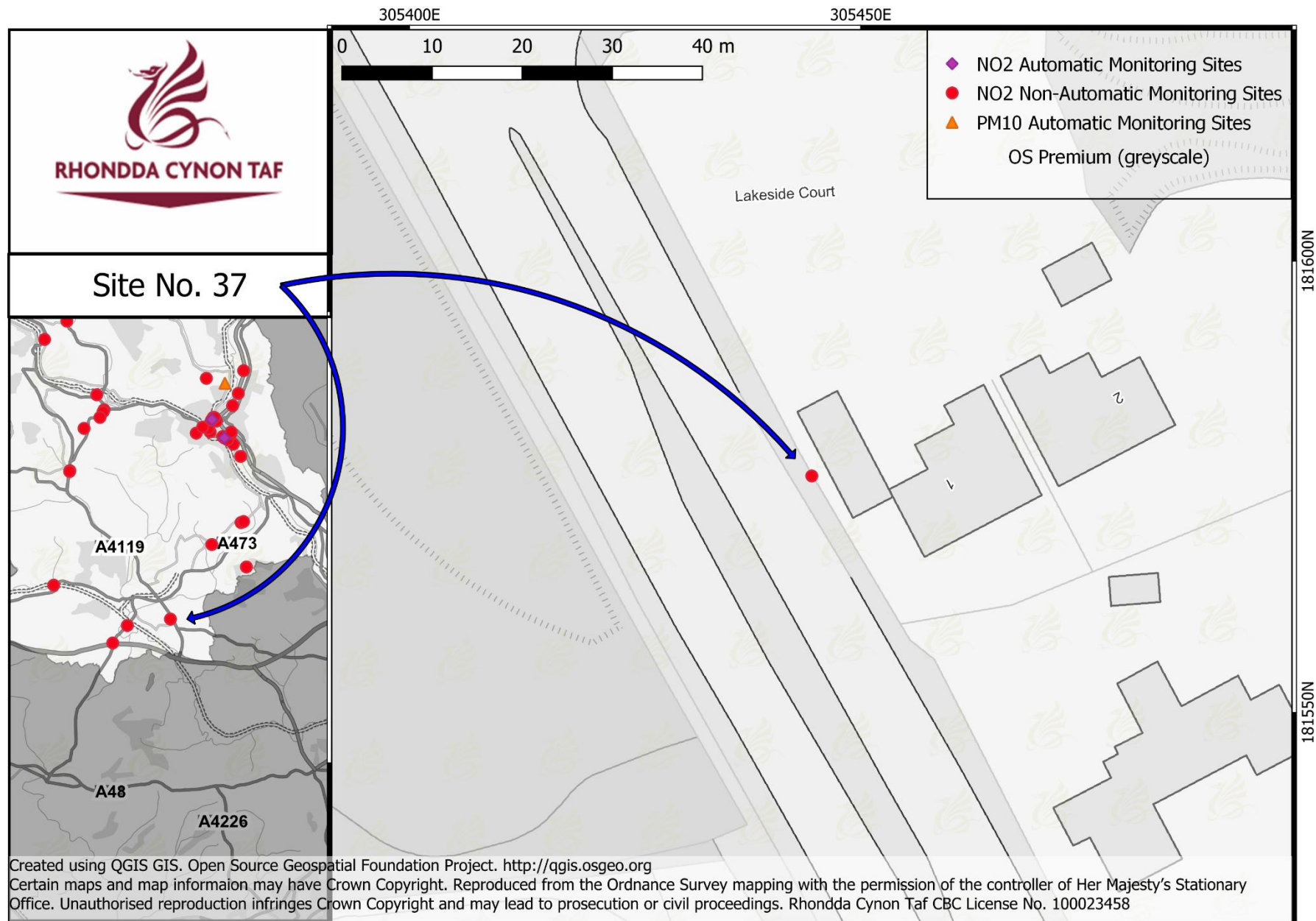
¹⁶ Formerly known as Enviro Technology

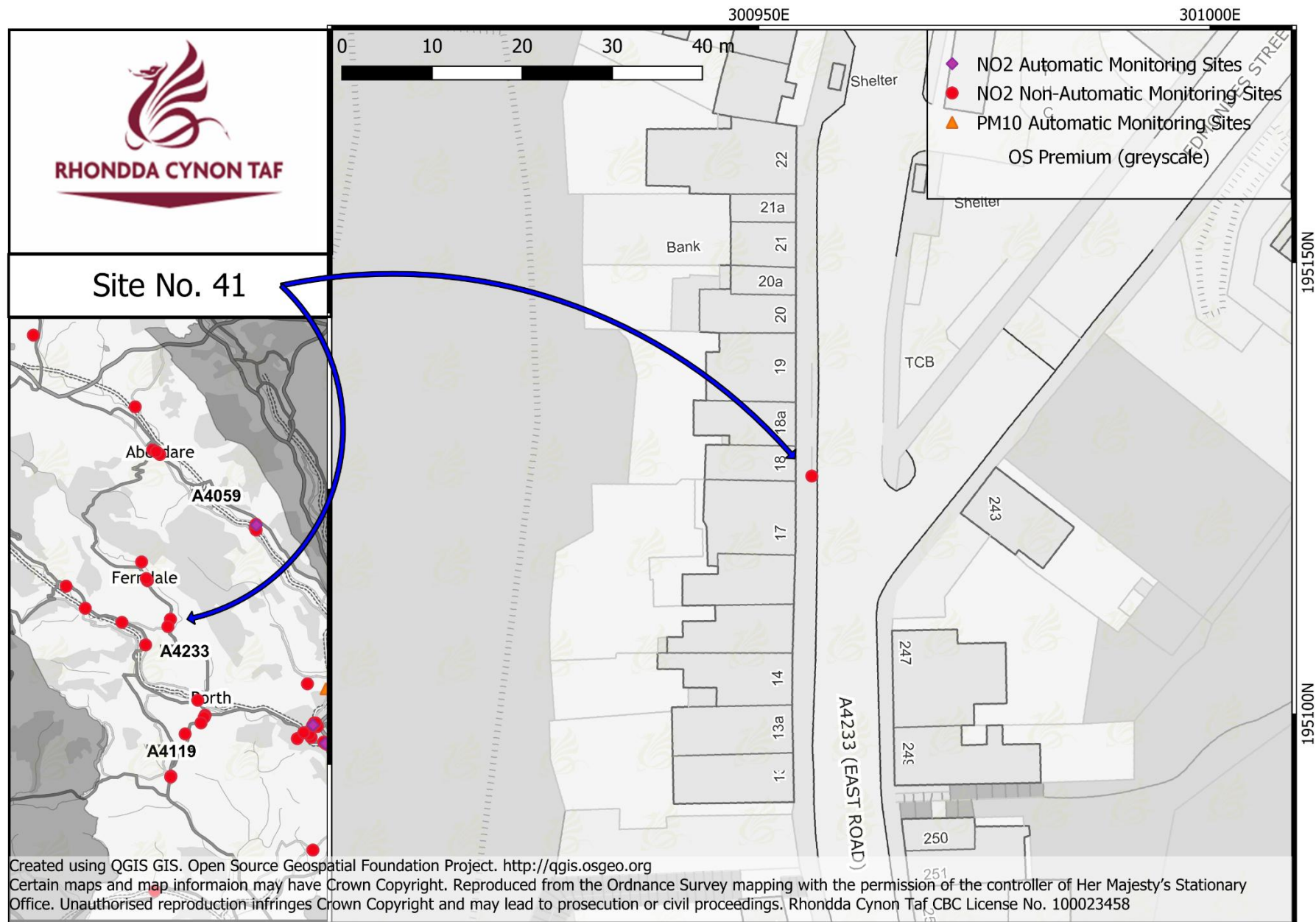
12. Appendix C2: Monitoring Location Maps

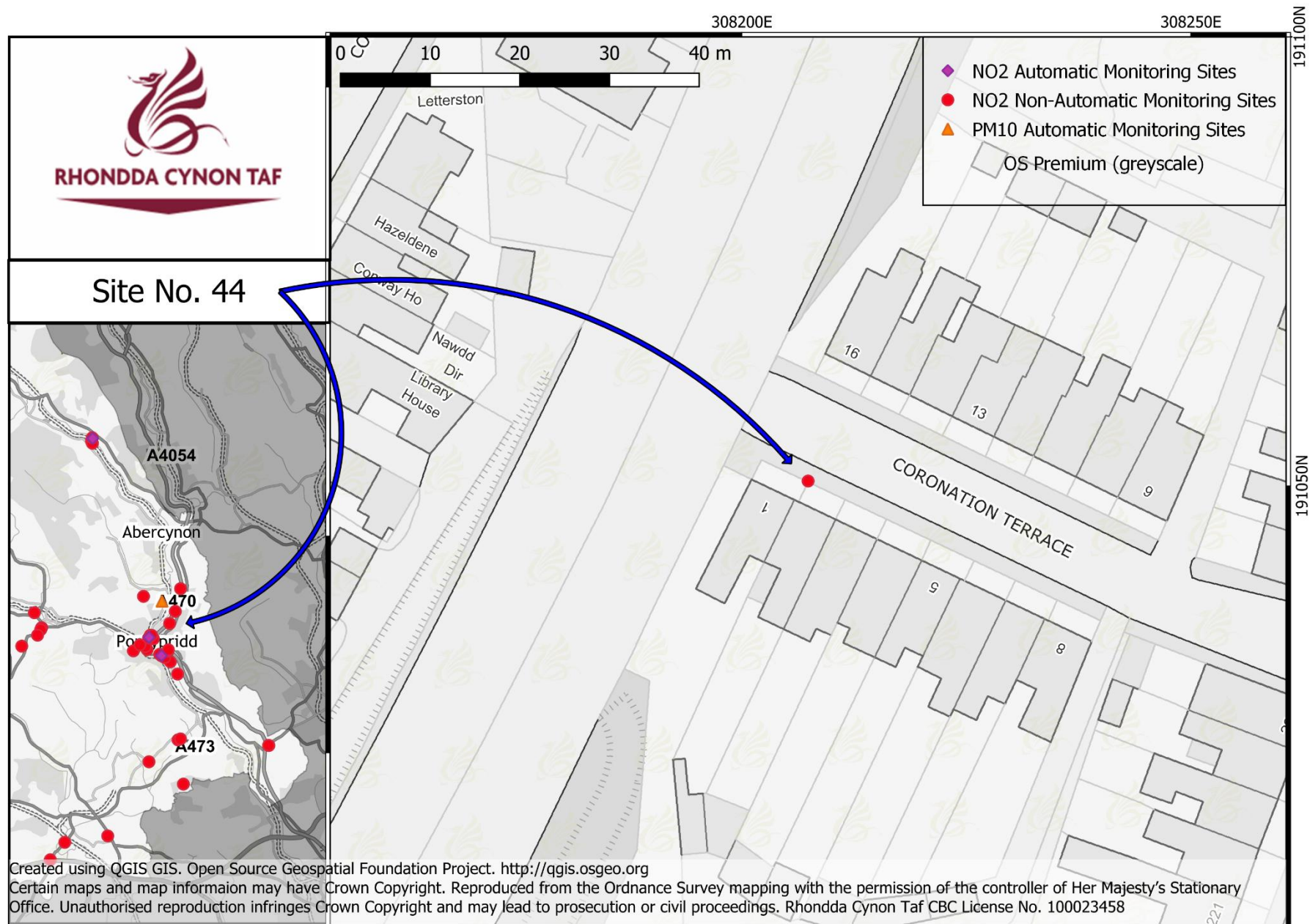


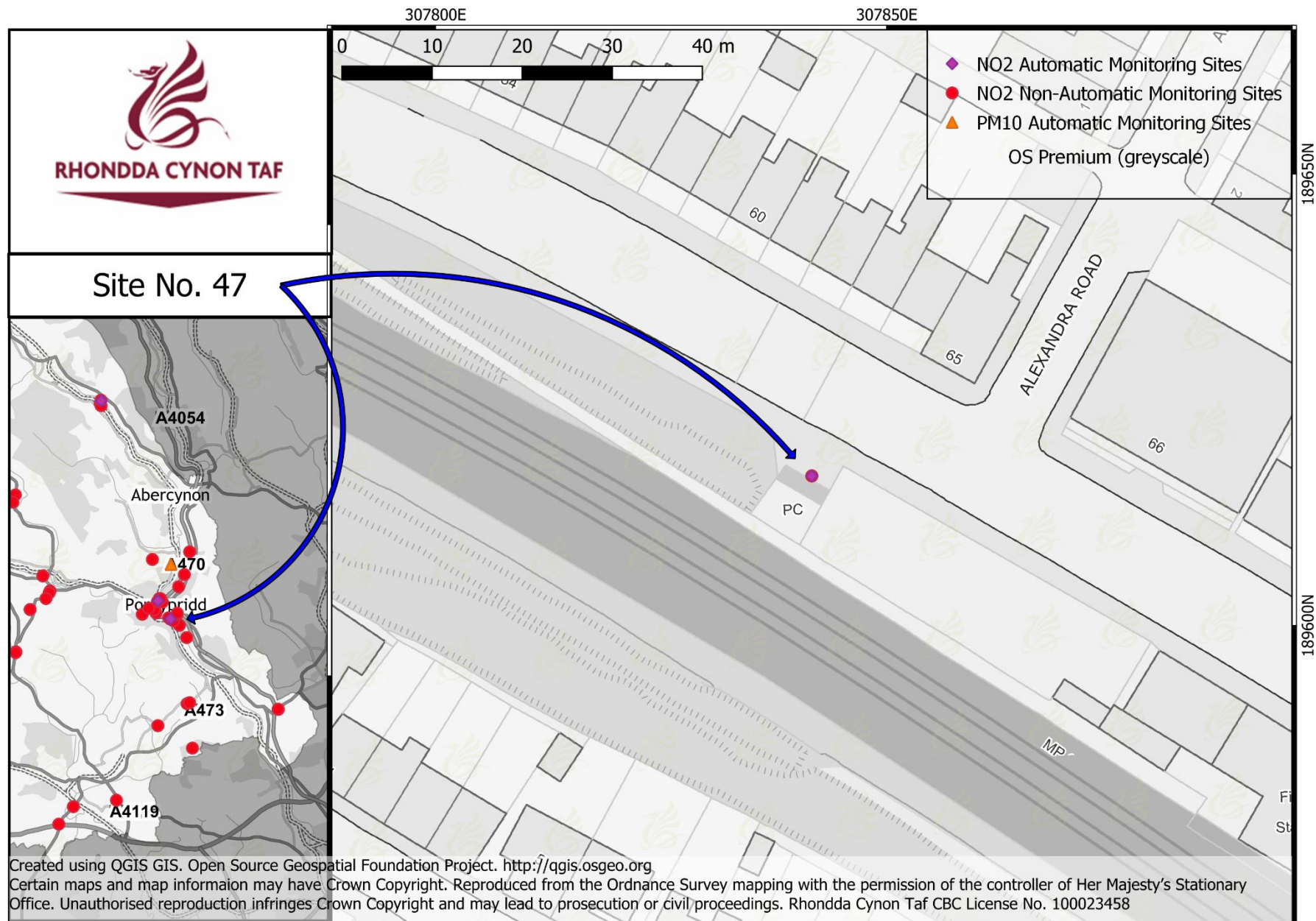


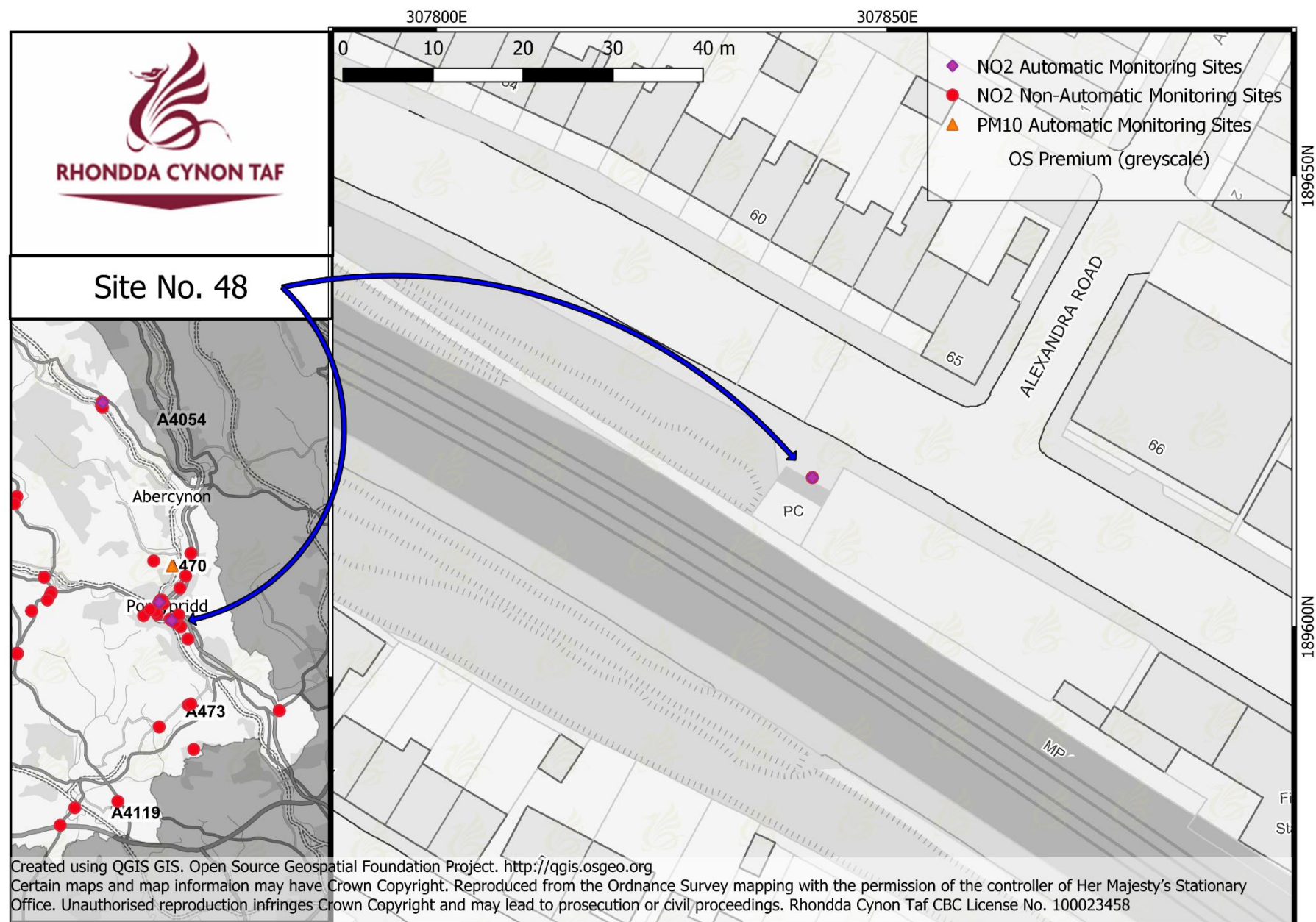


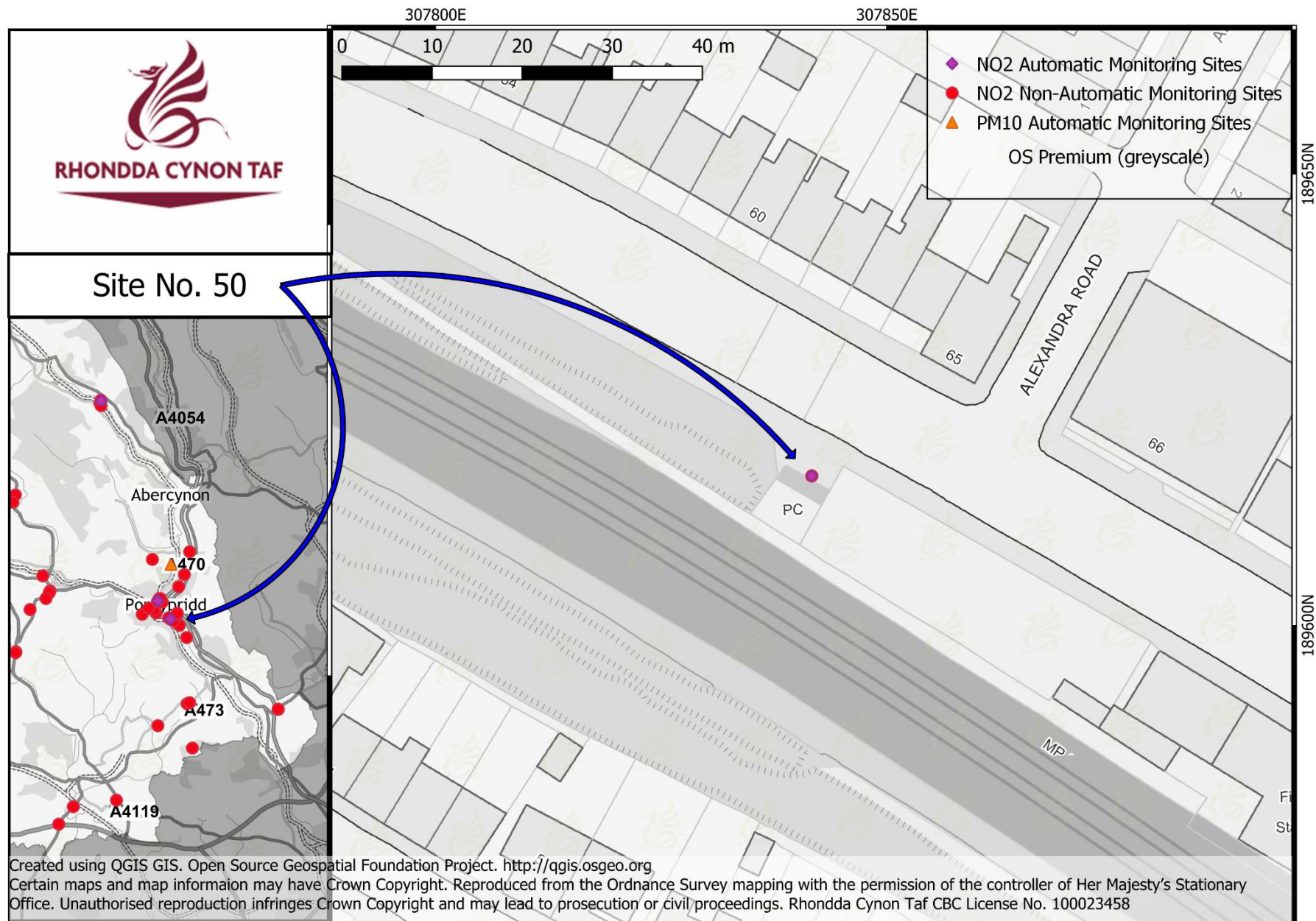


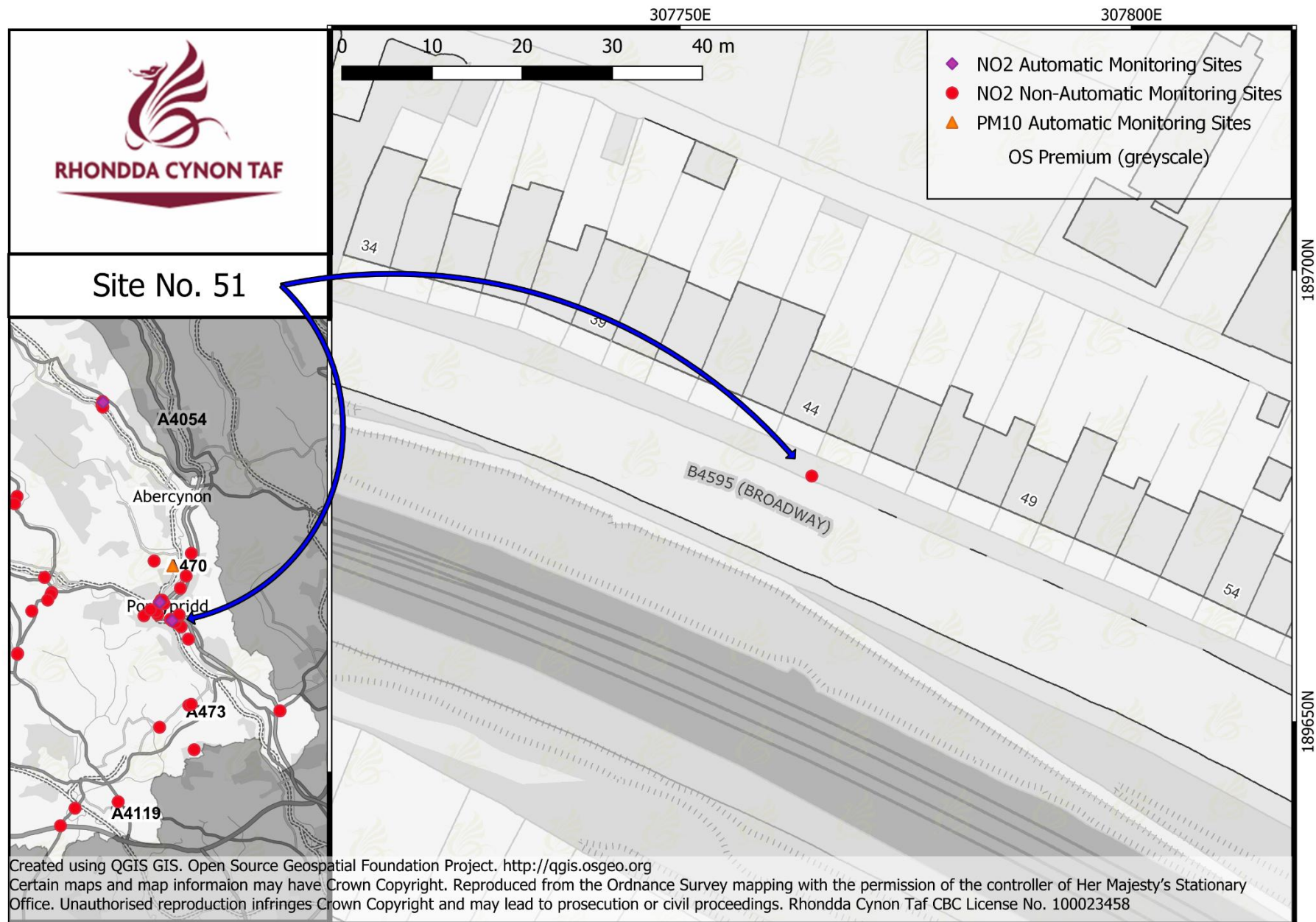


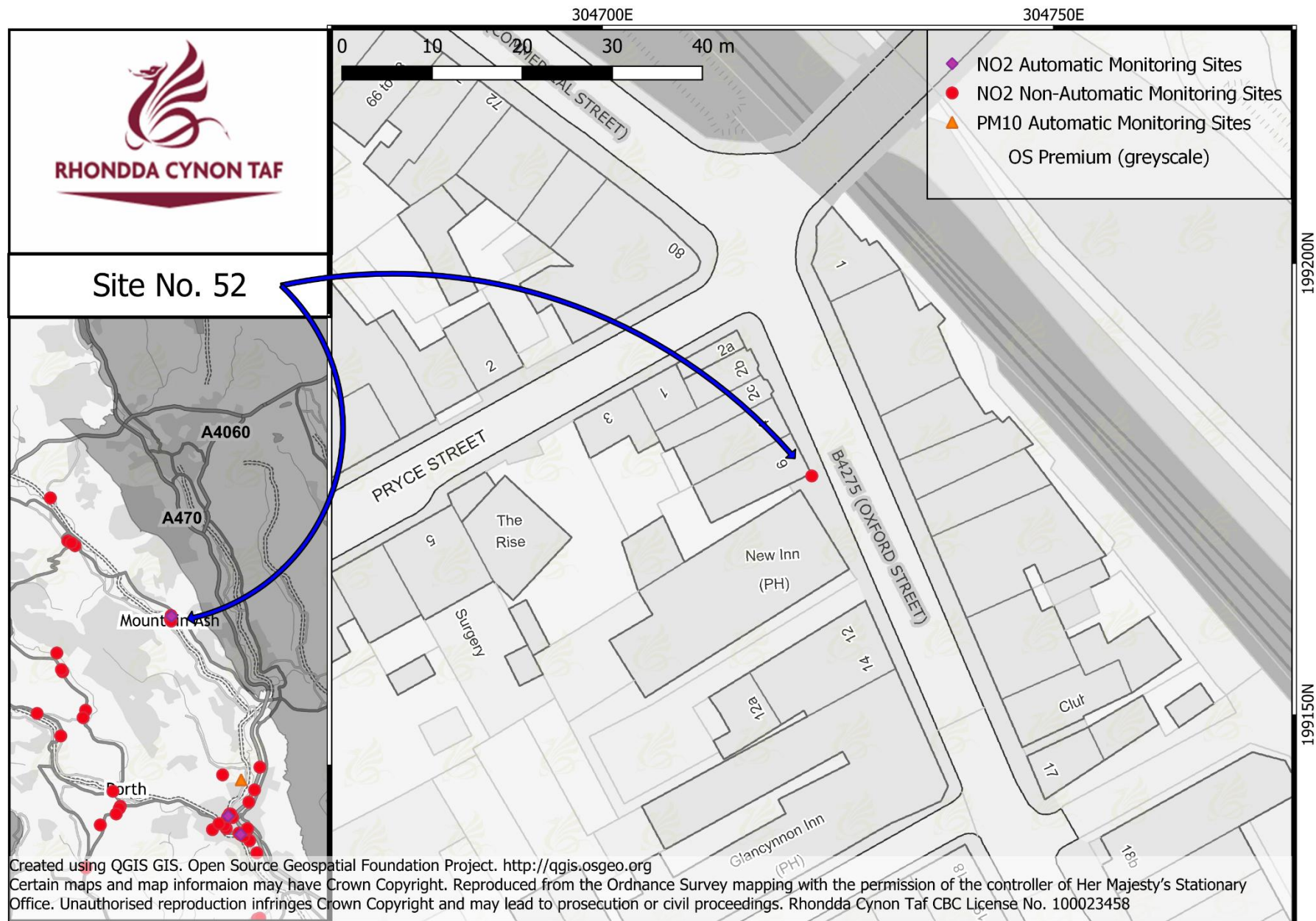


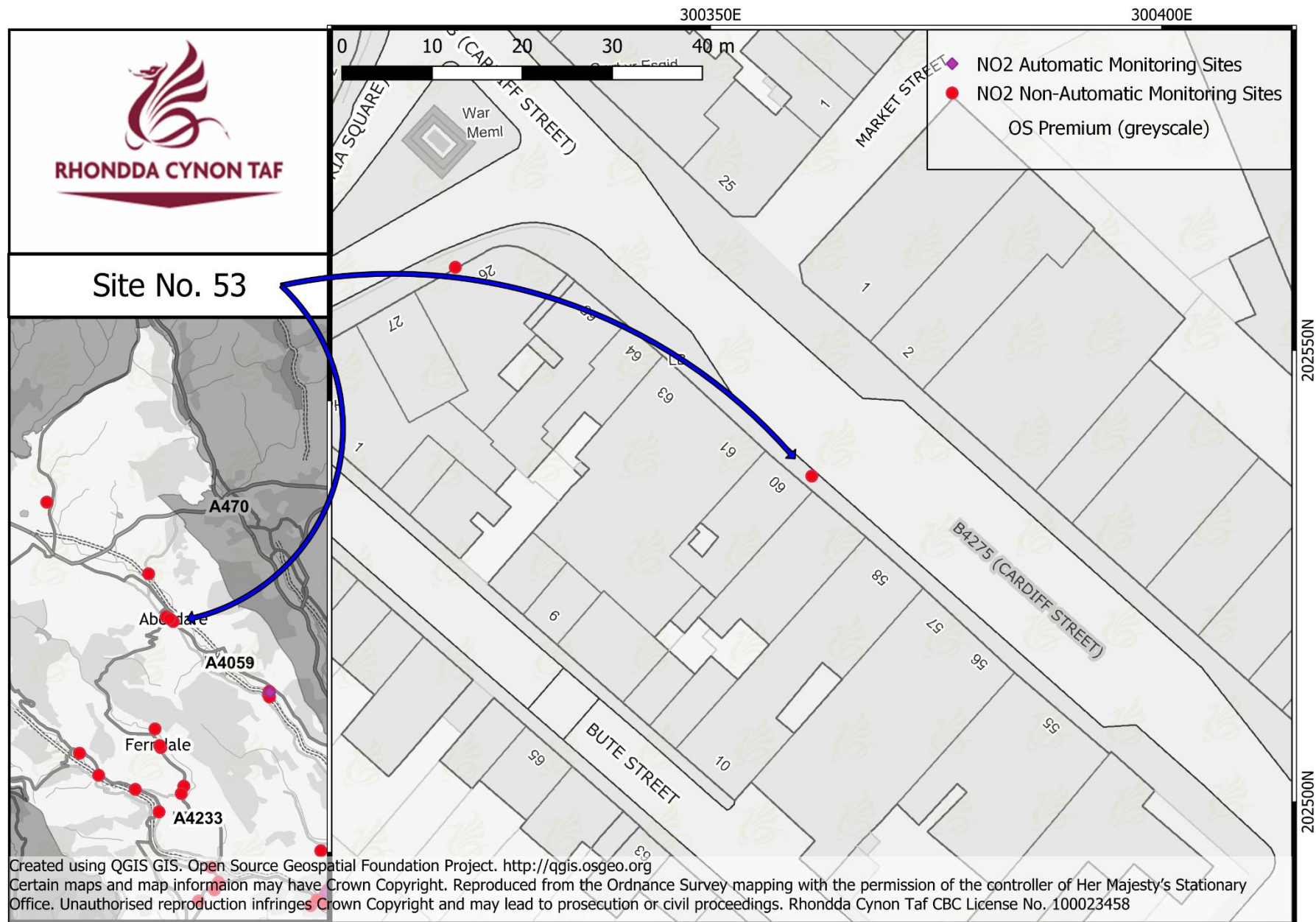


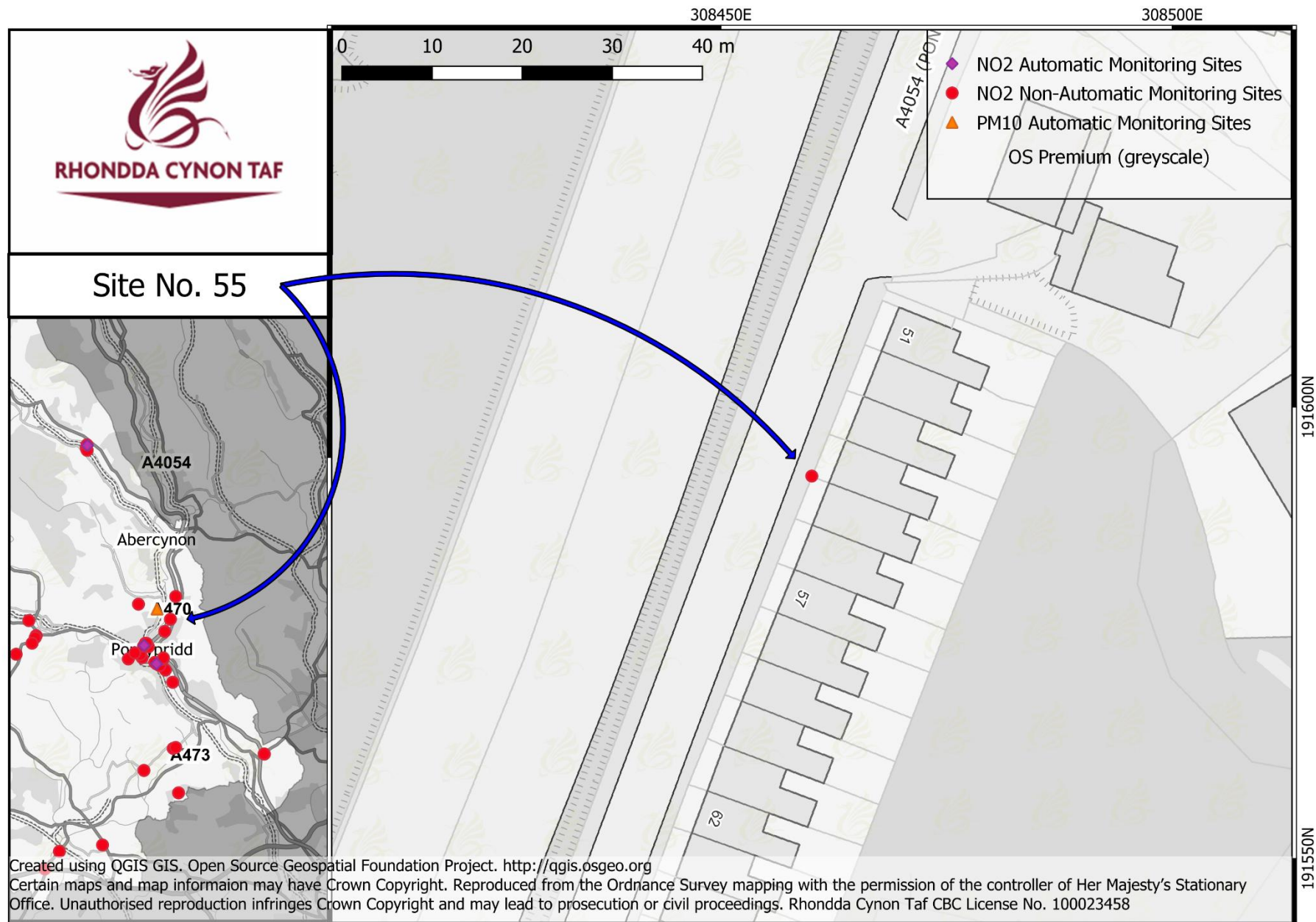


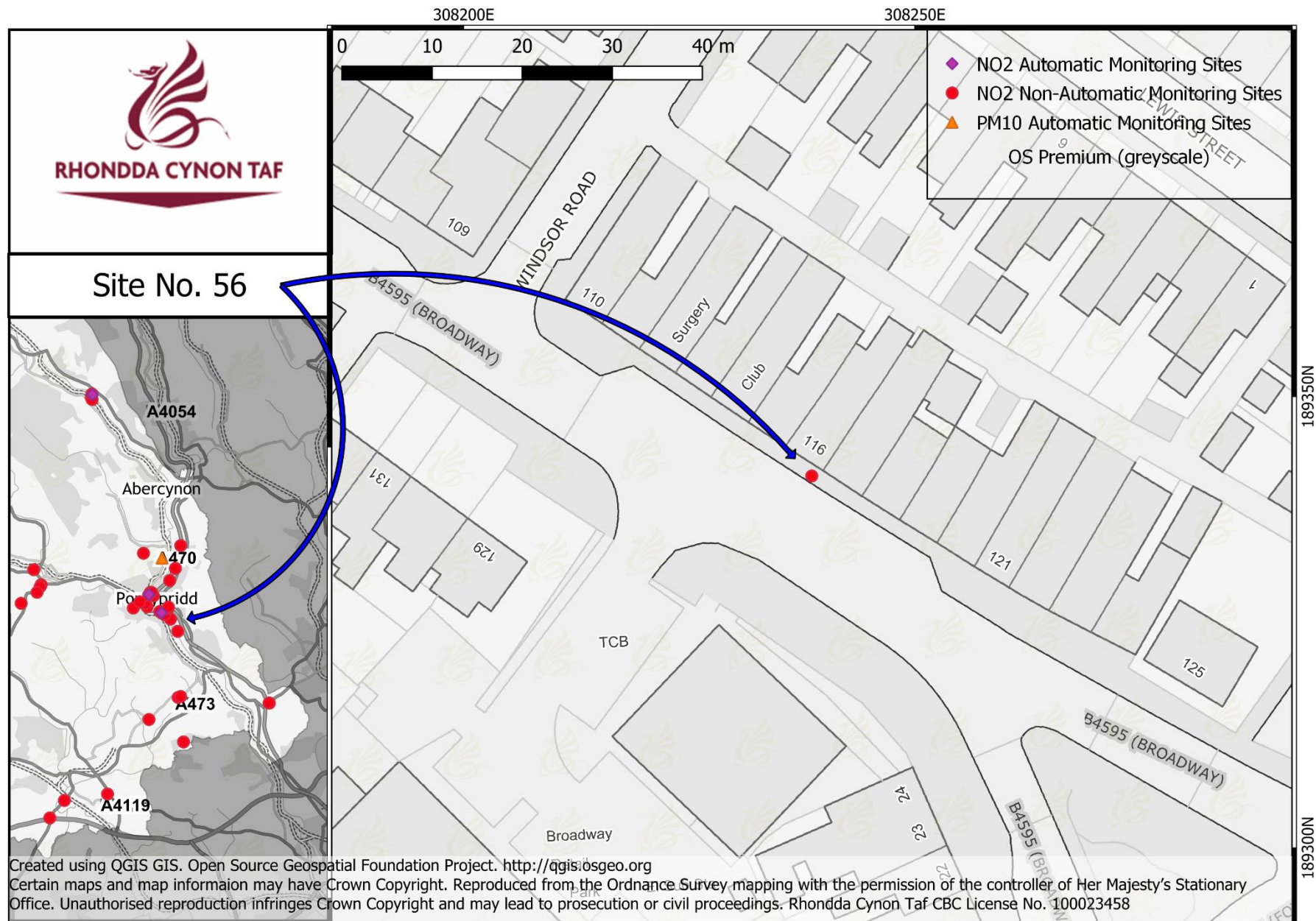


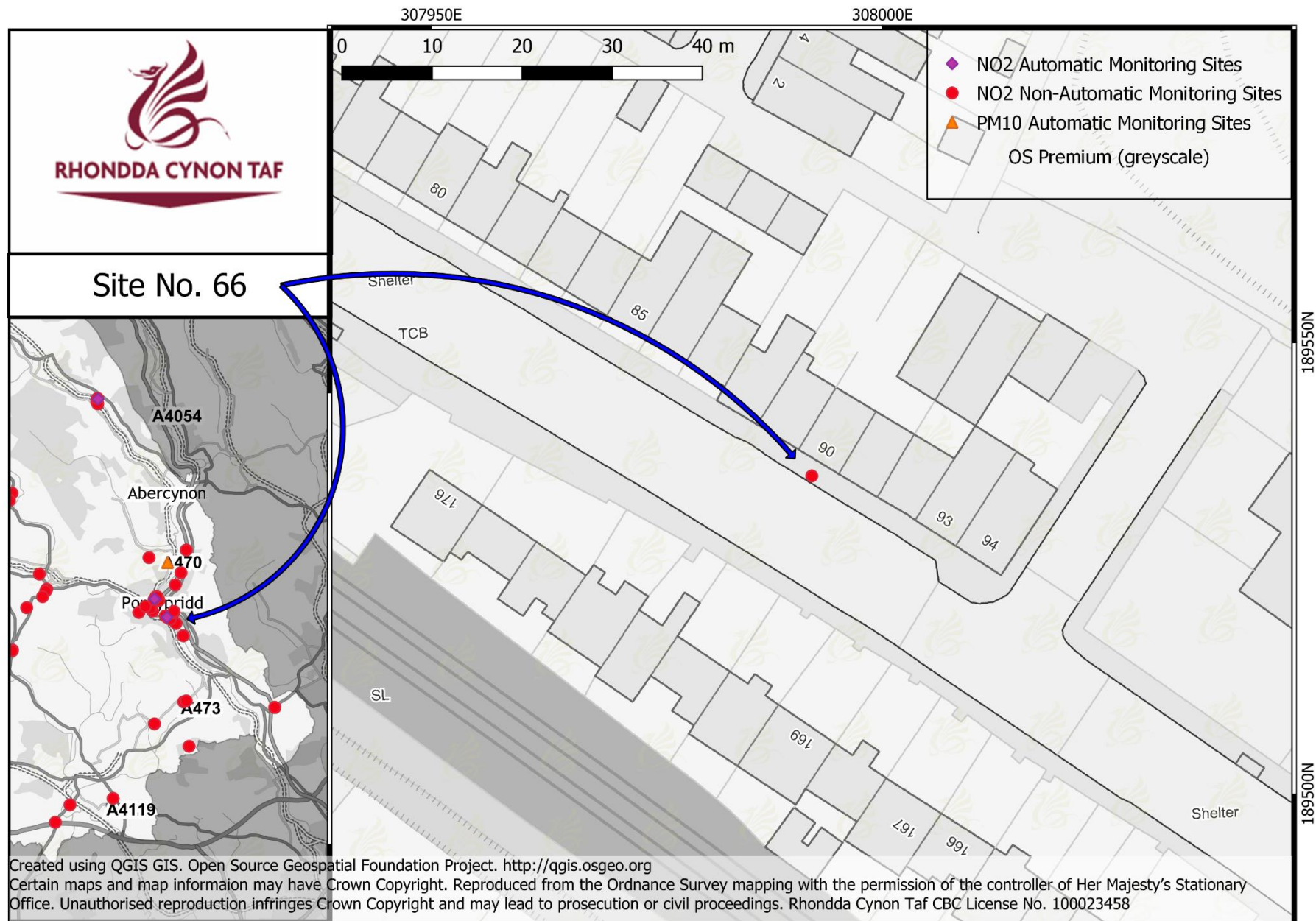


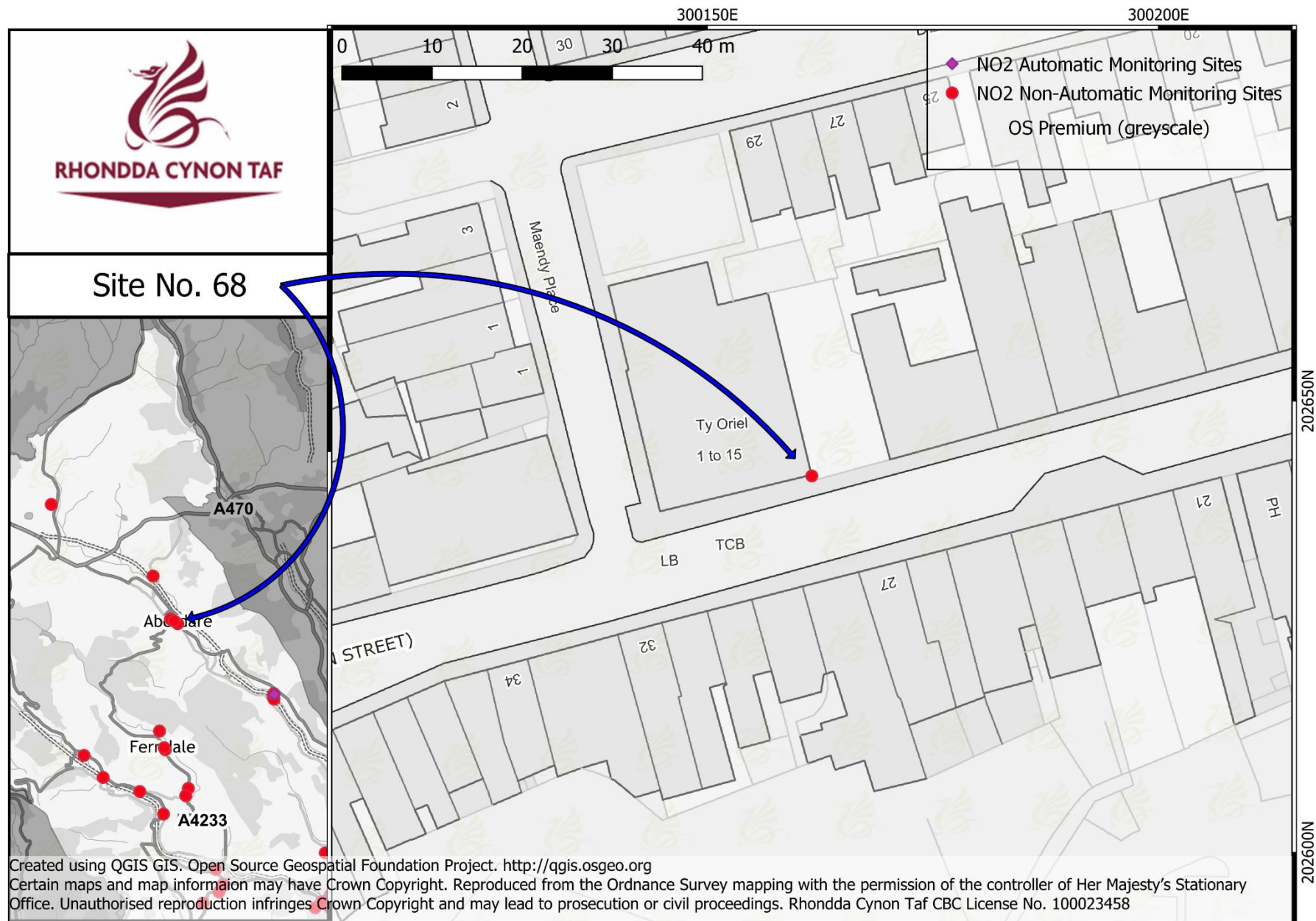


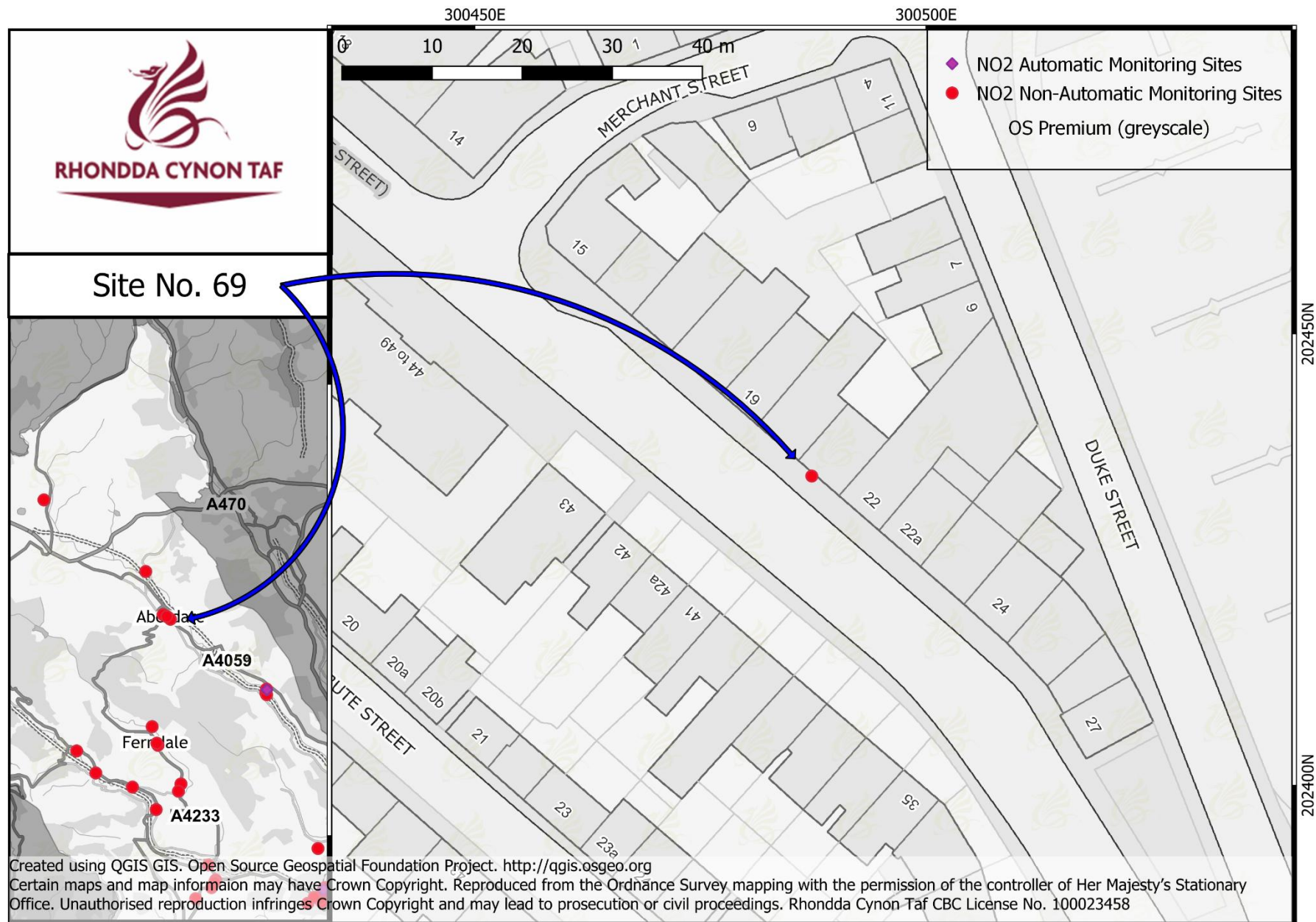


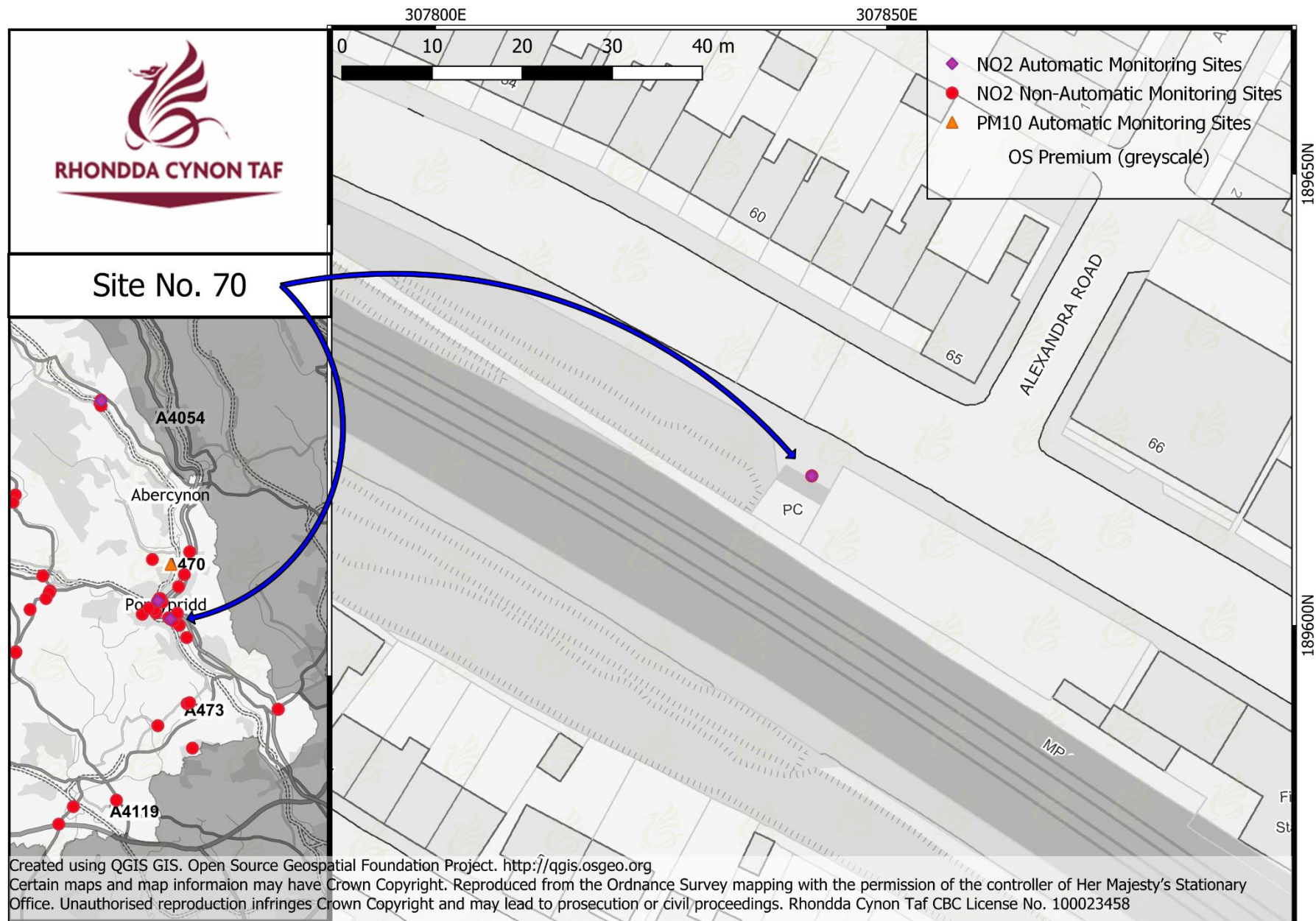


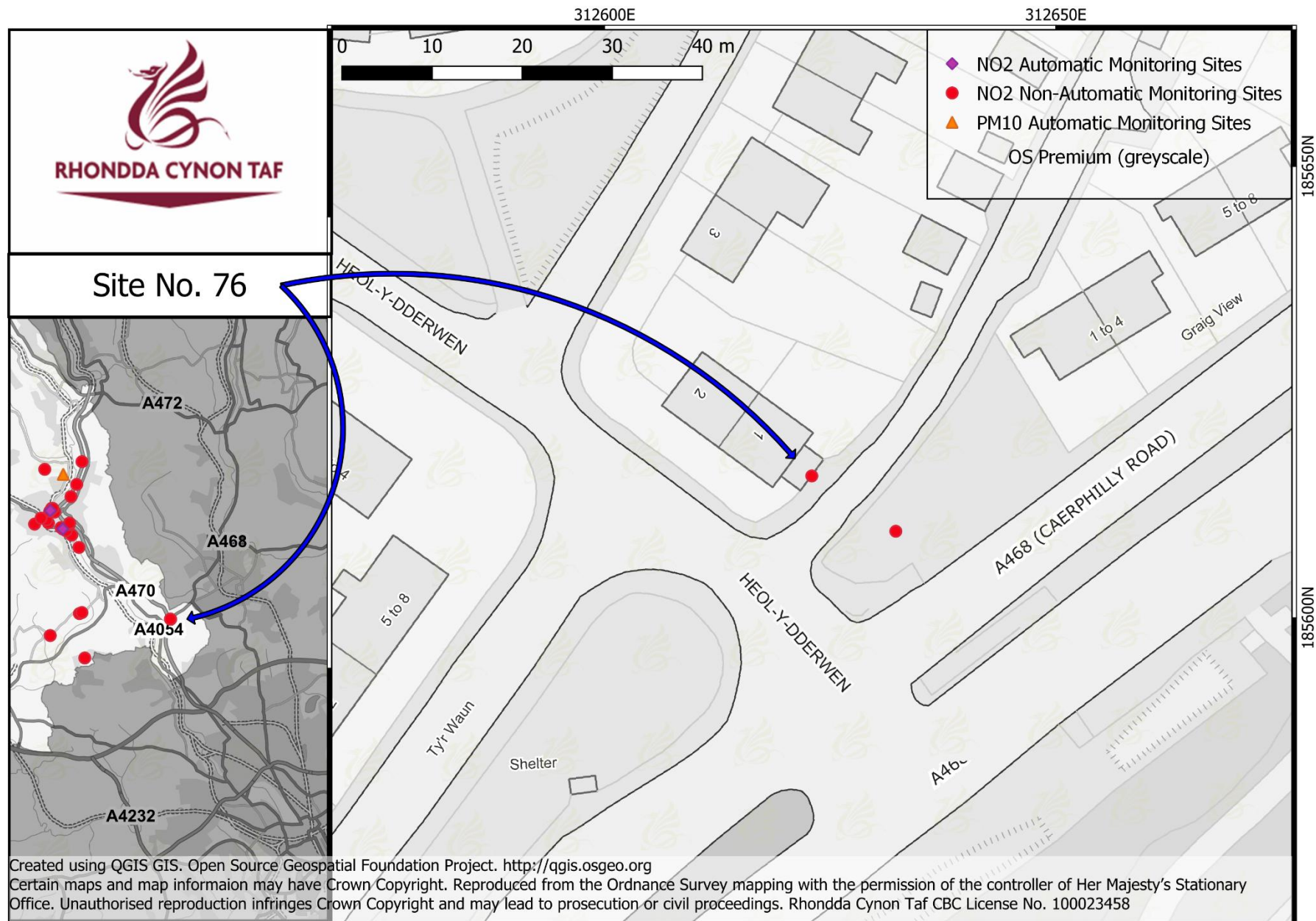


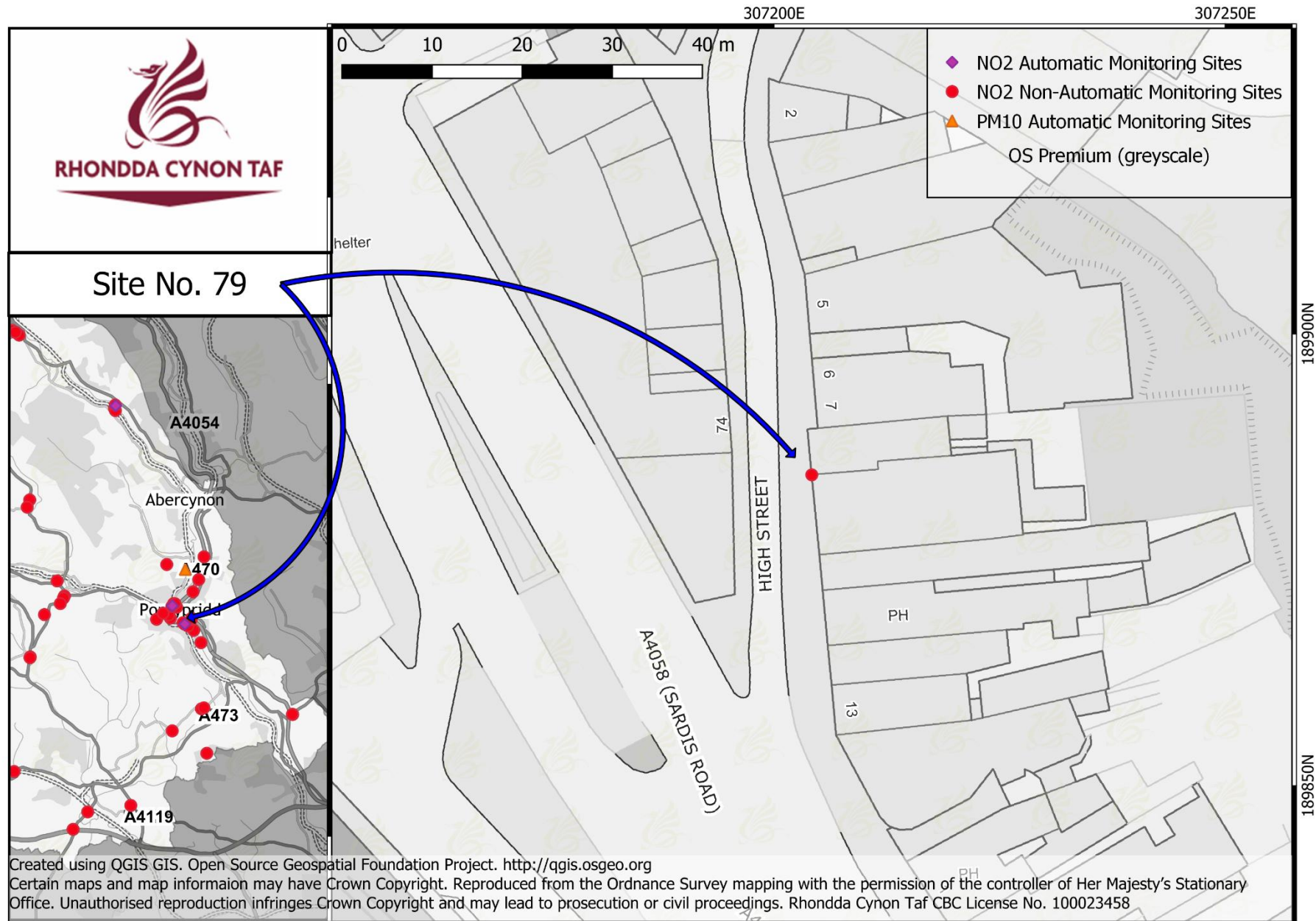


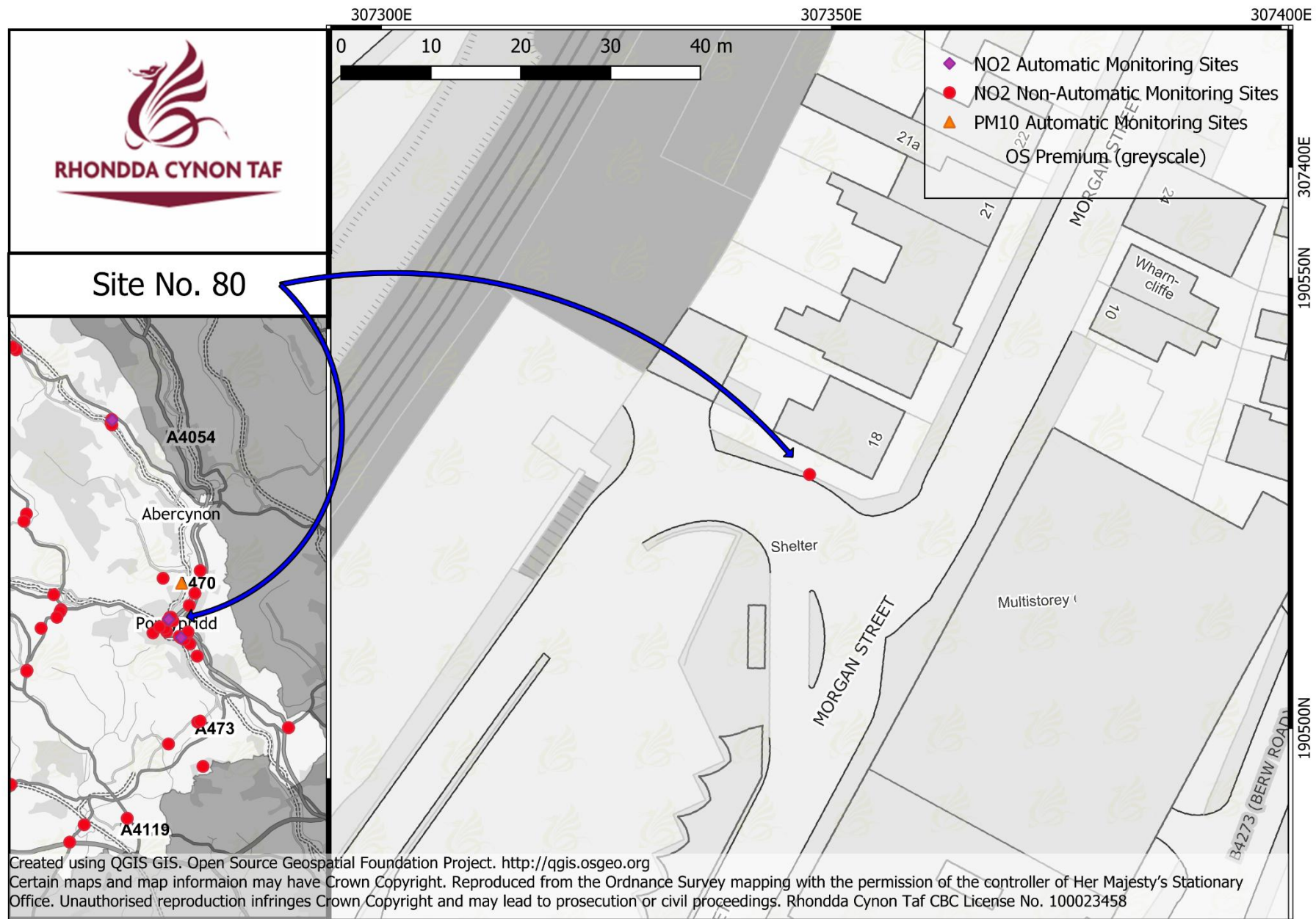


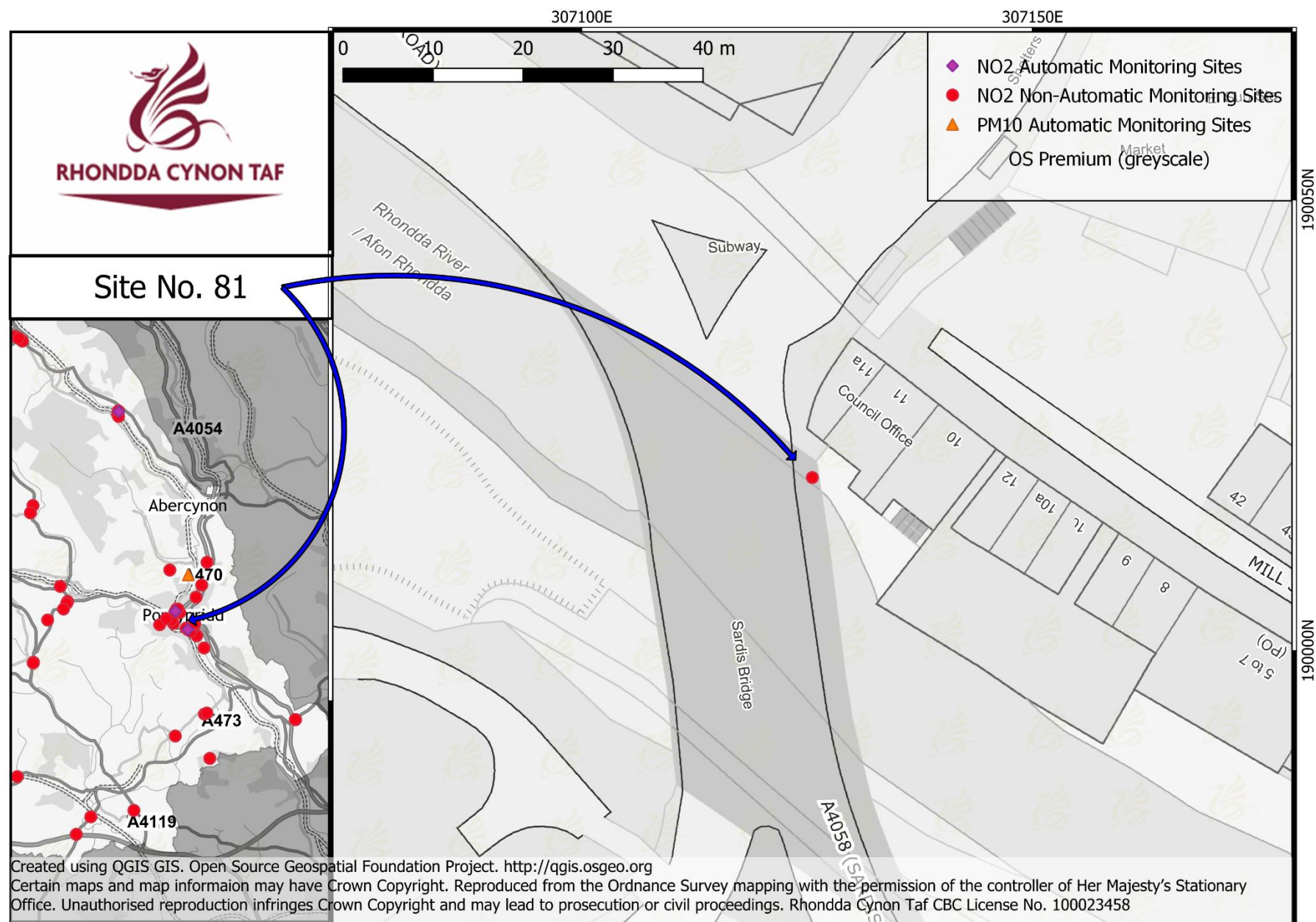


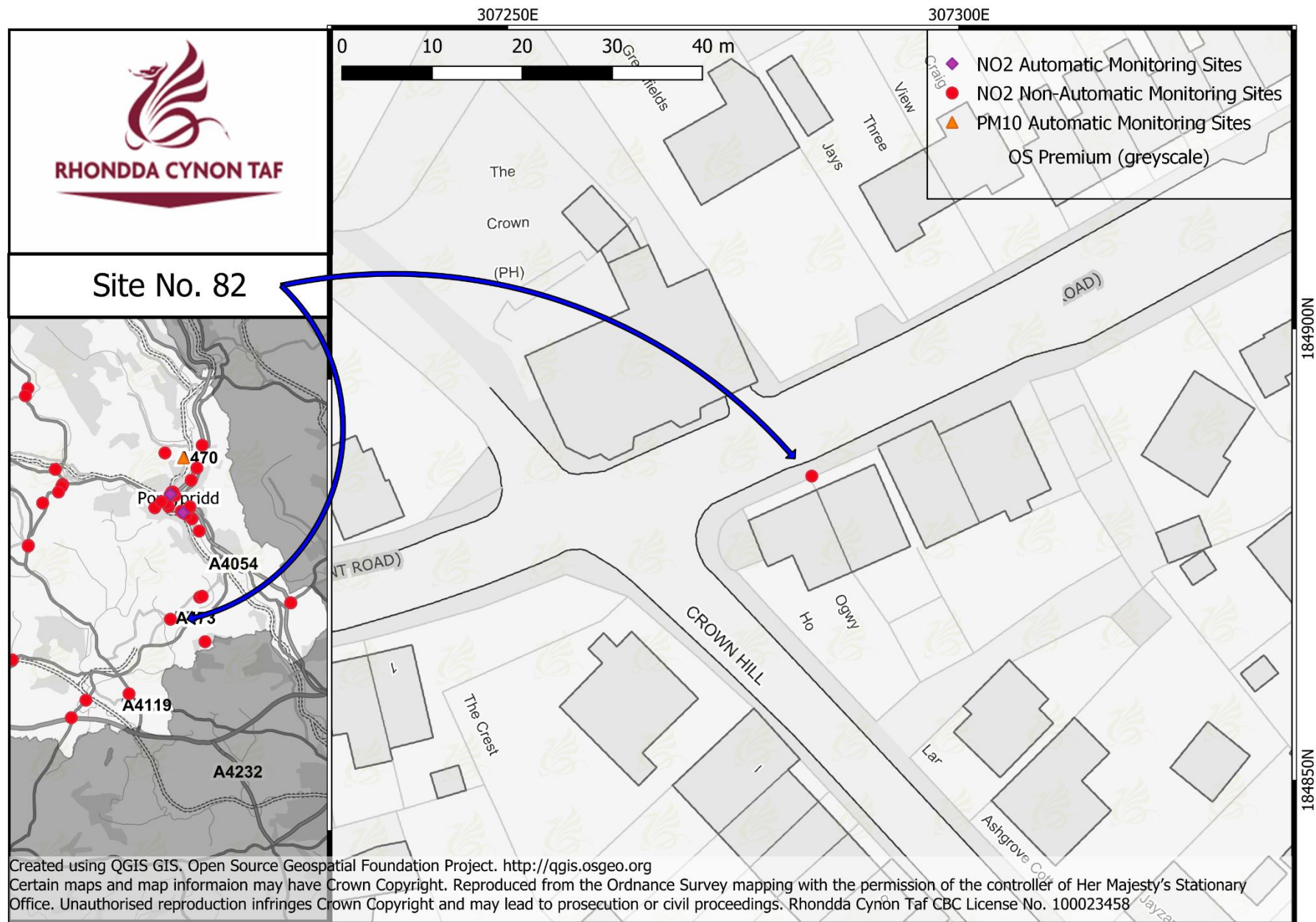


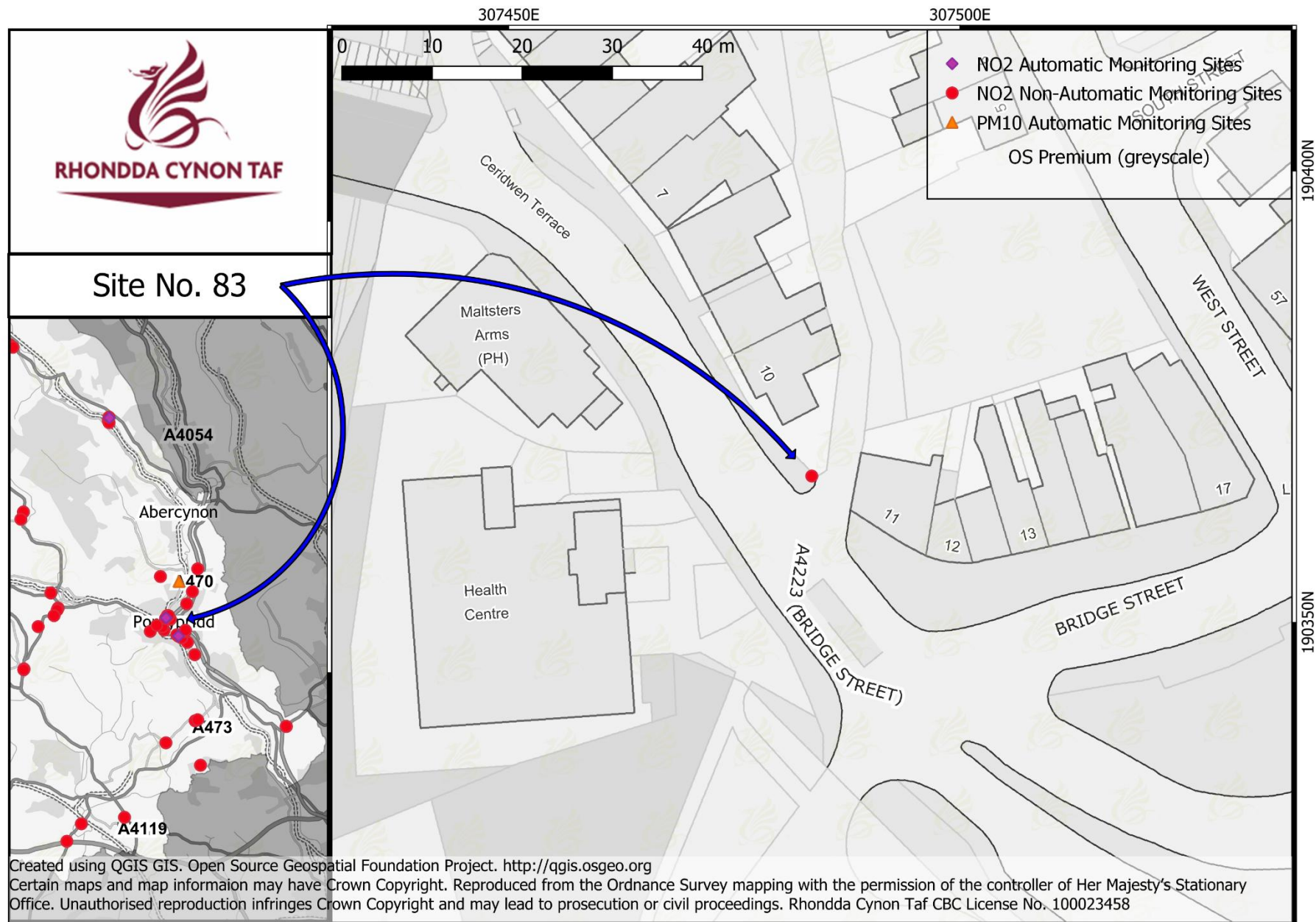


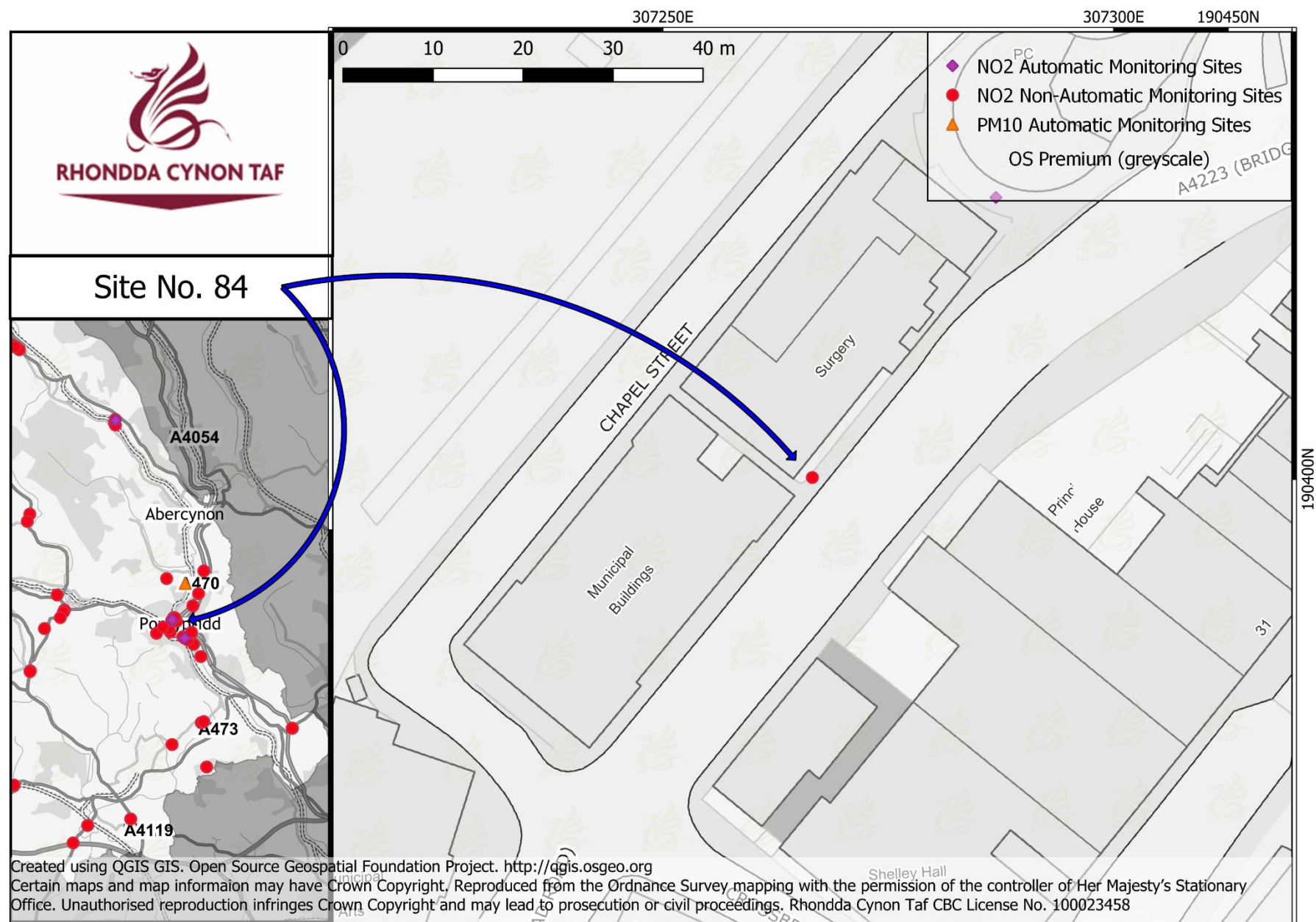


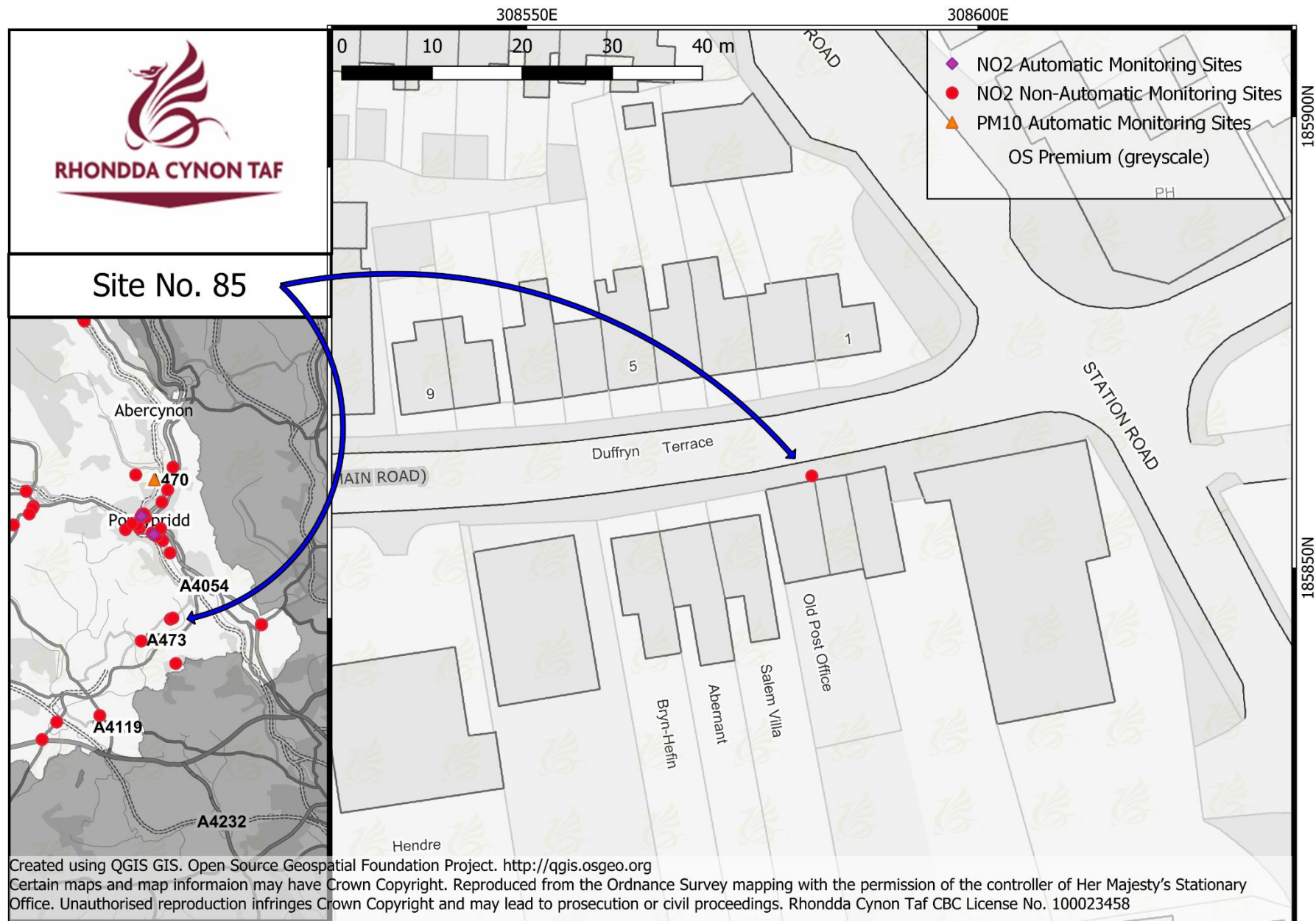


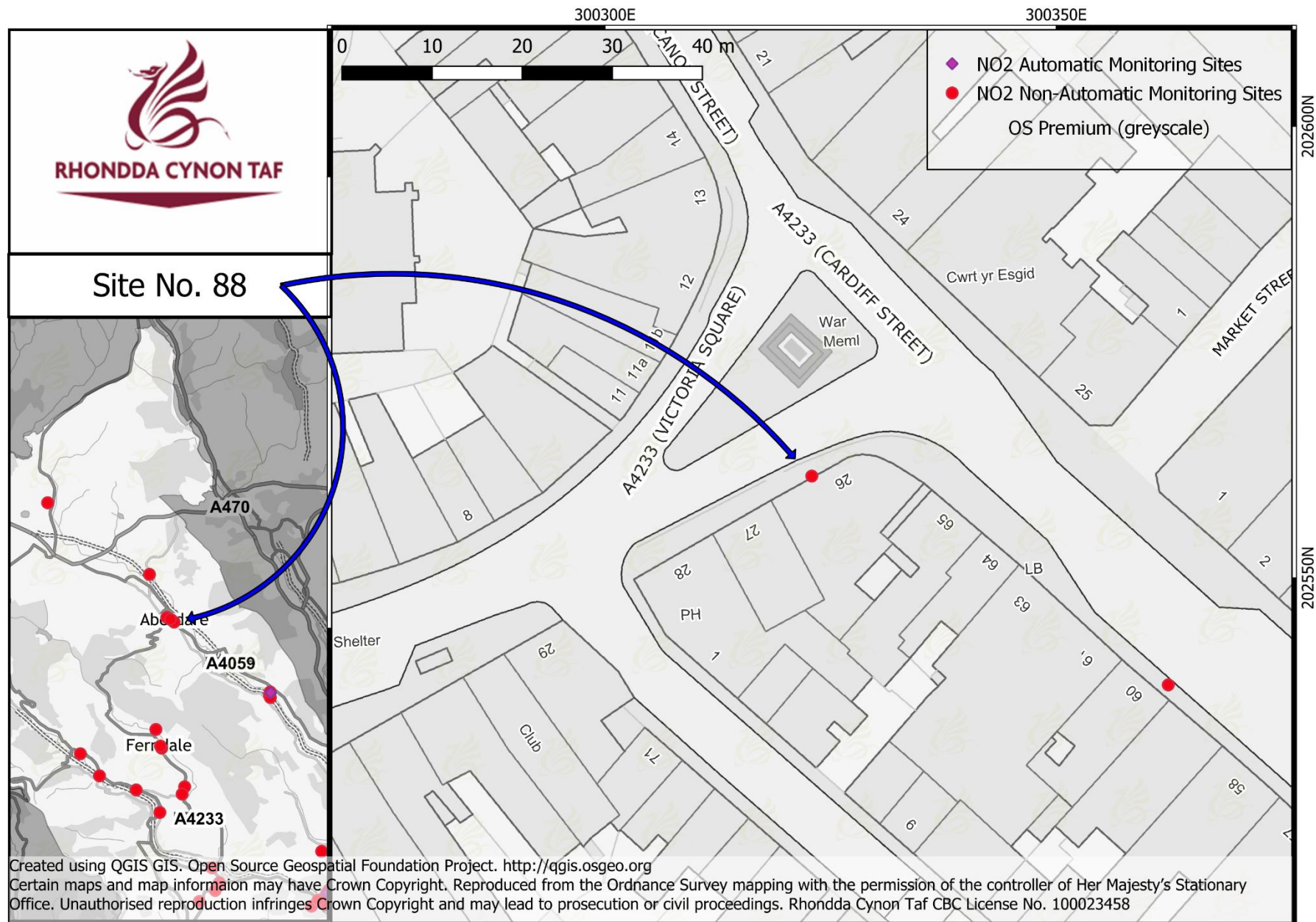


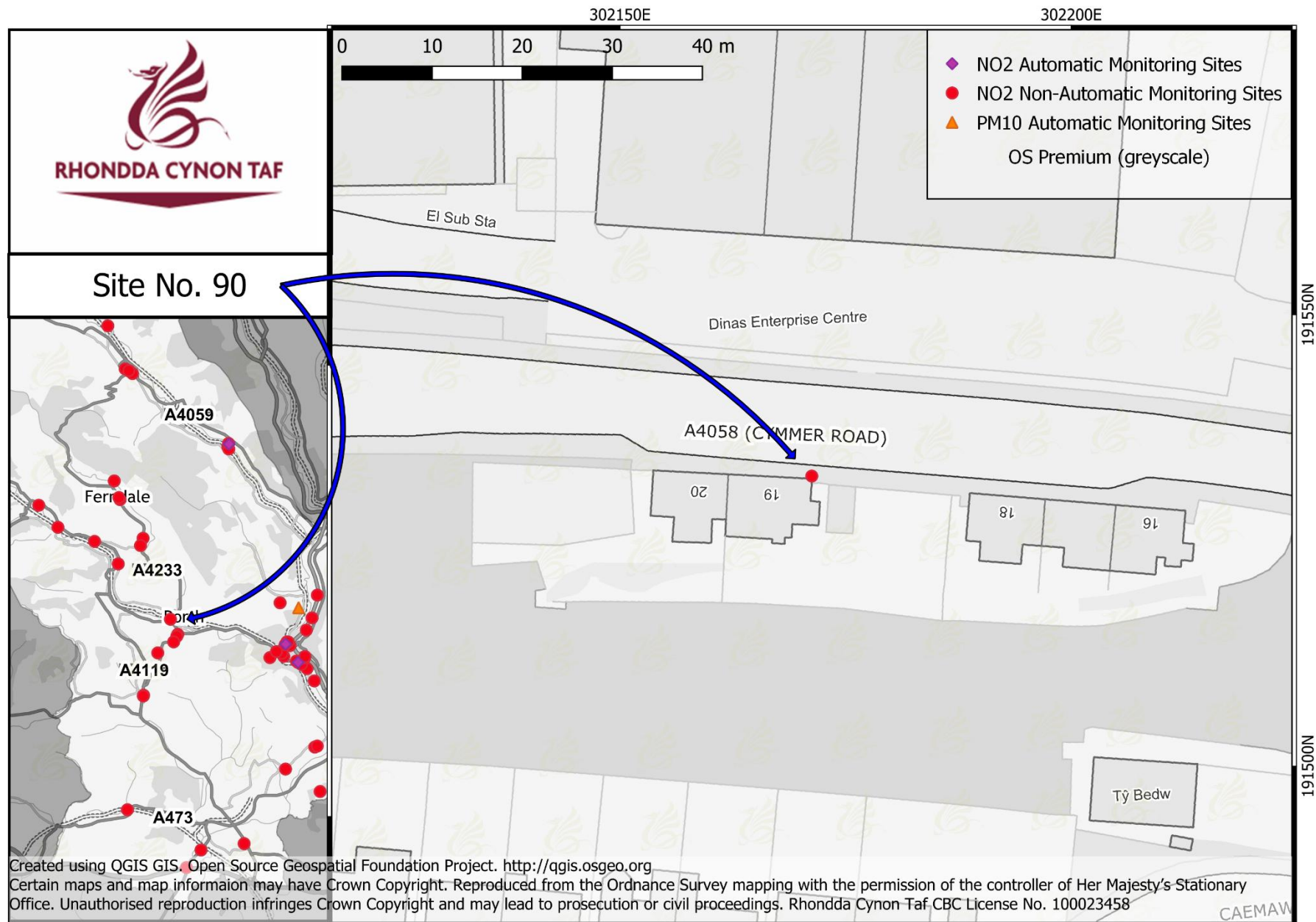


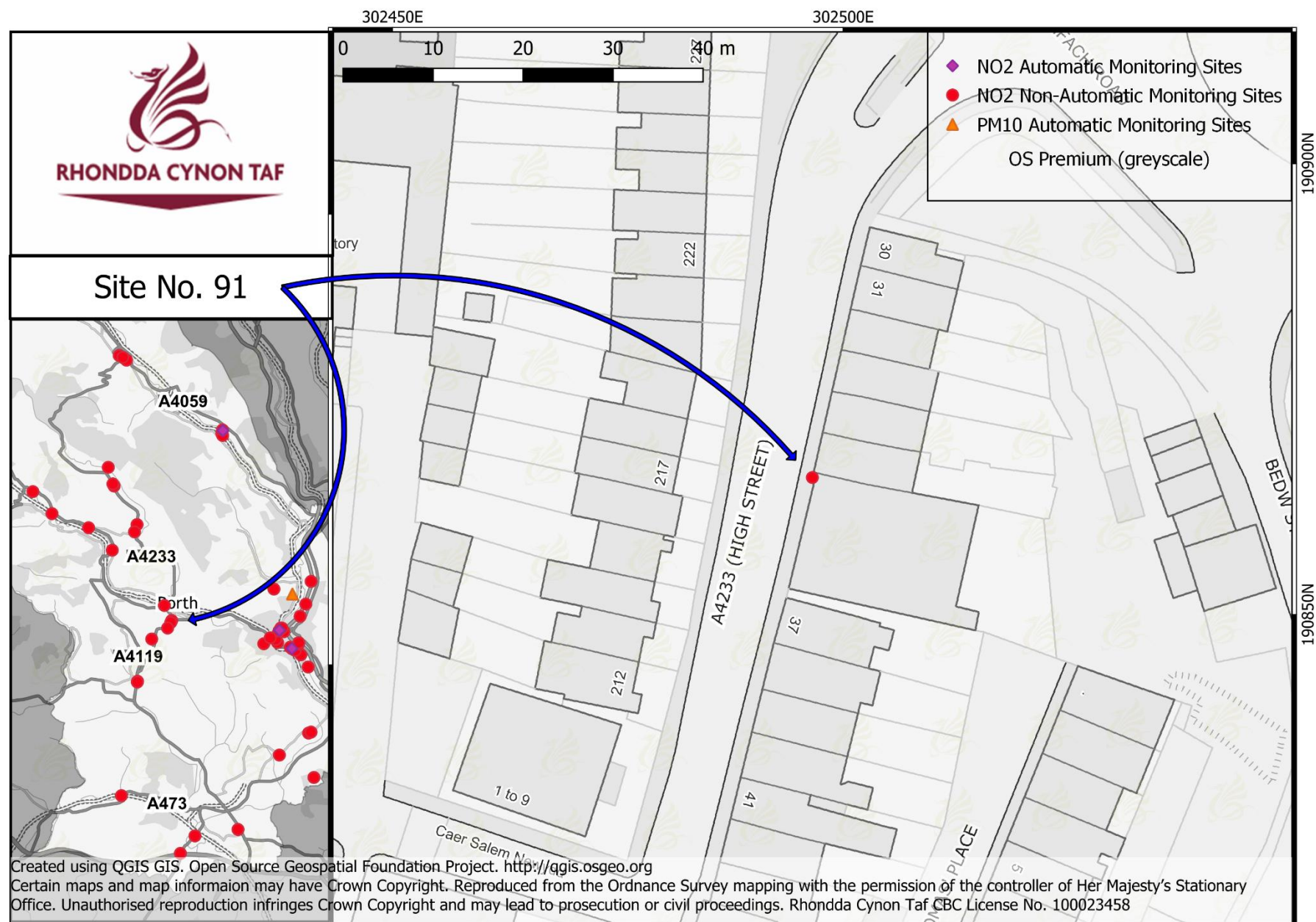


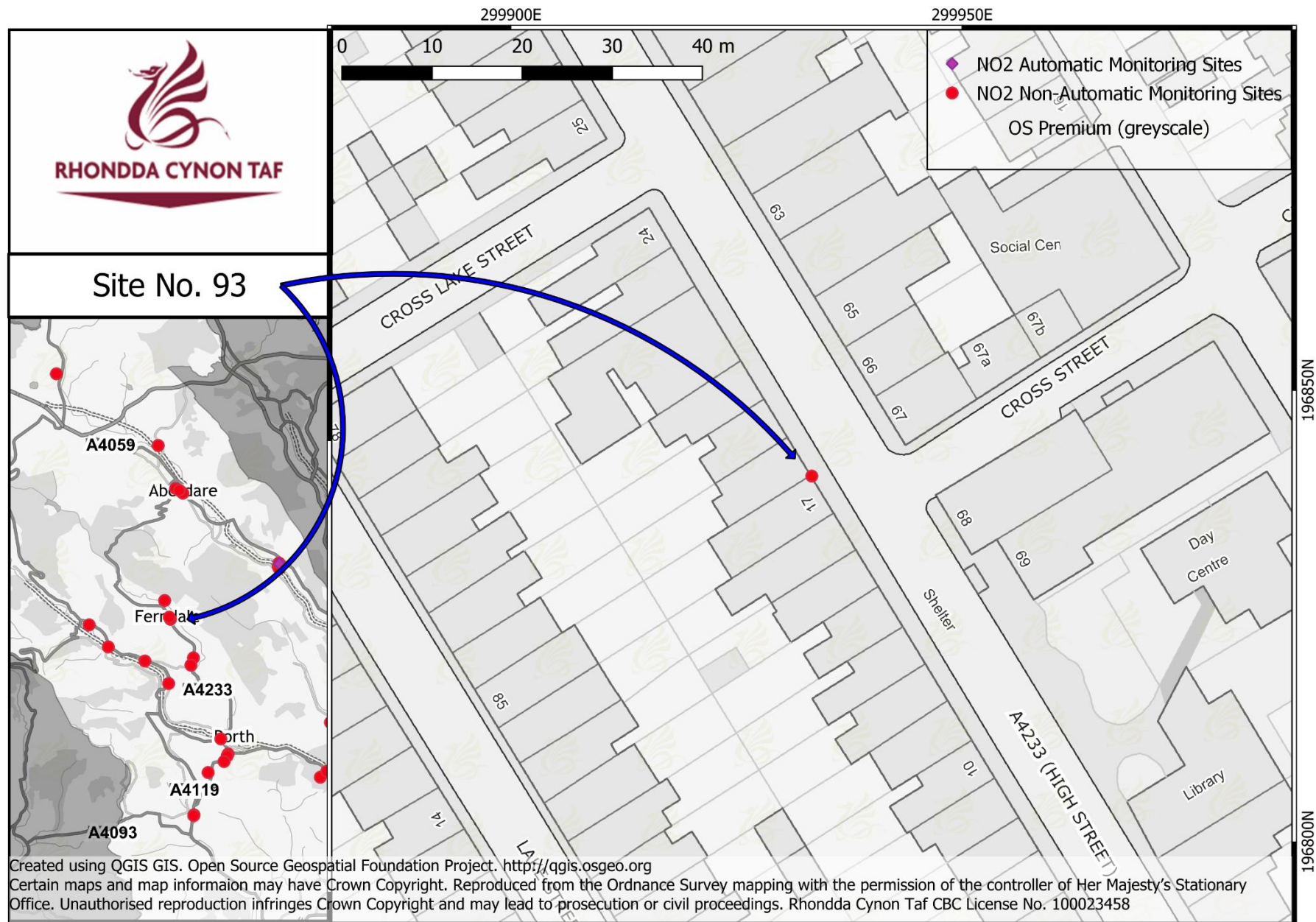


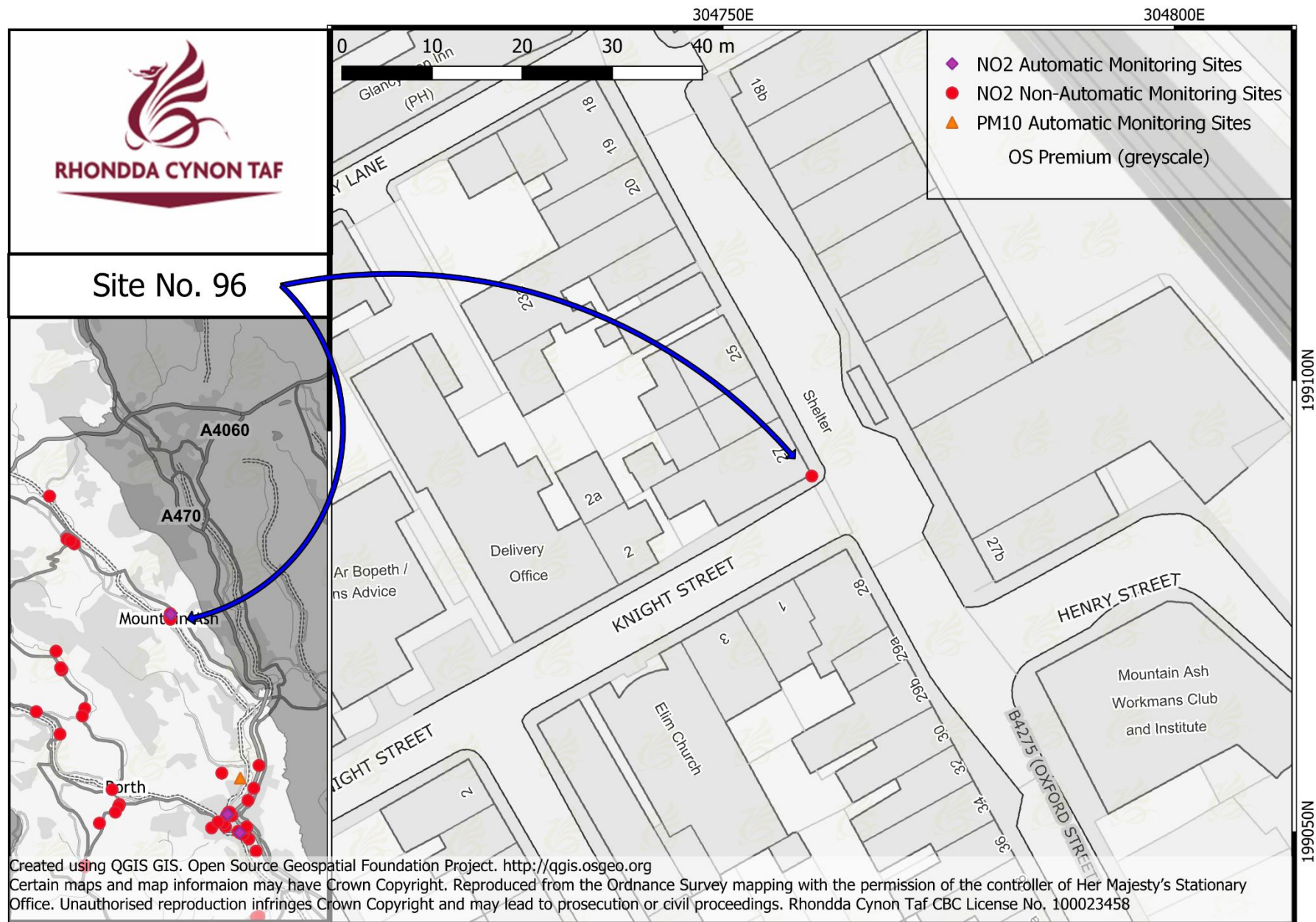


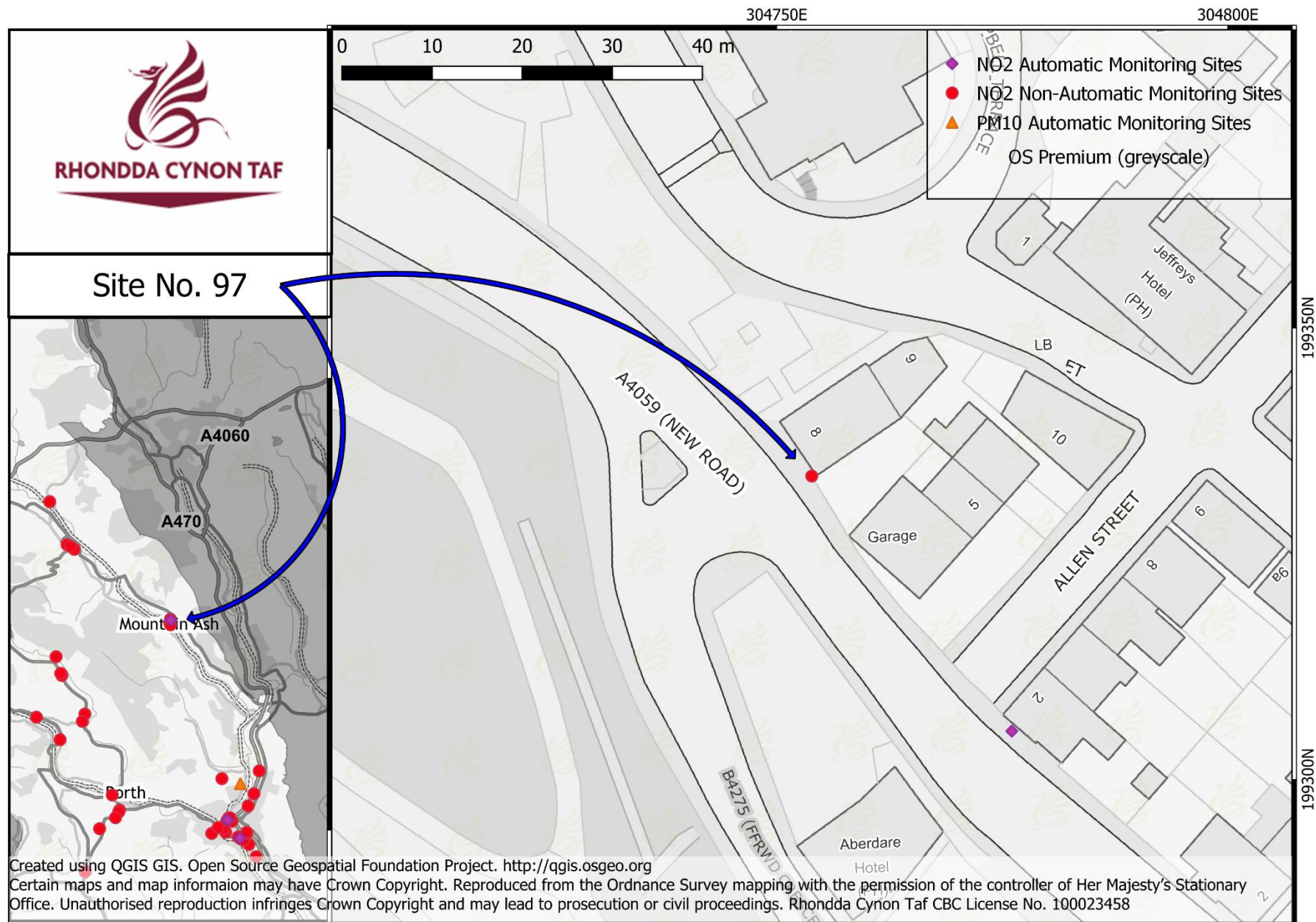


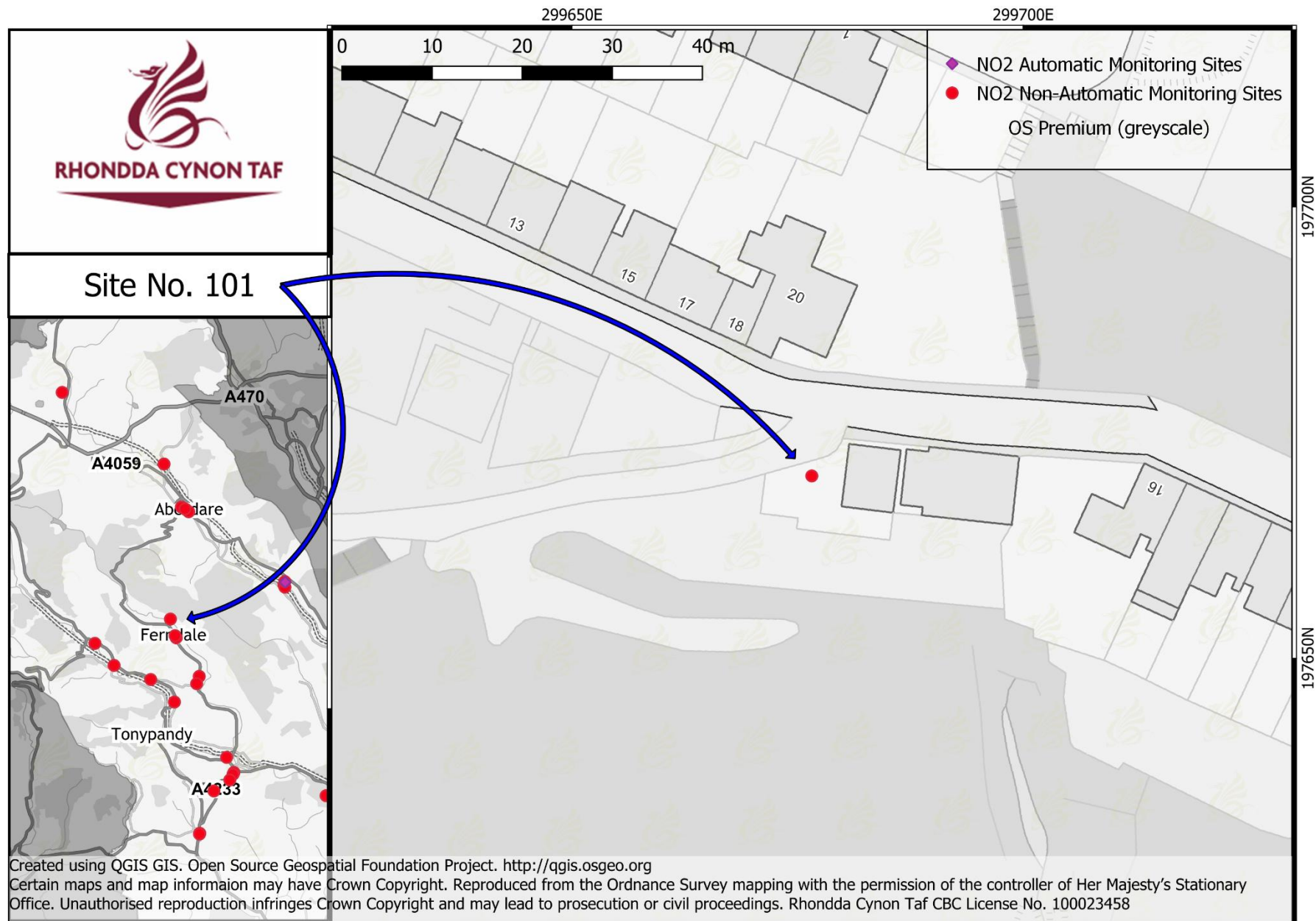


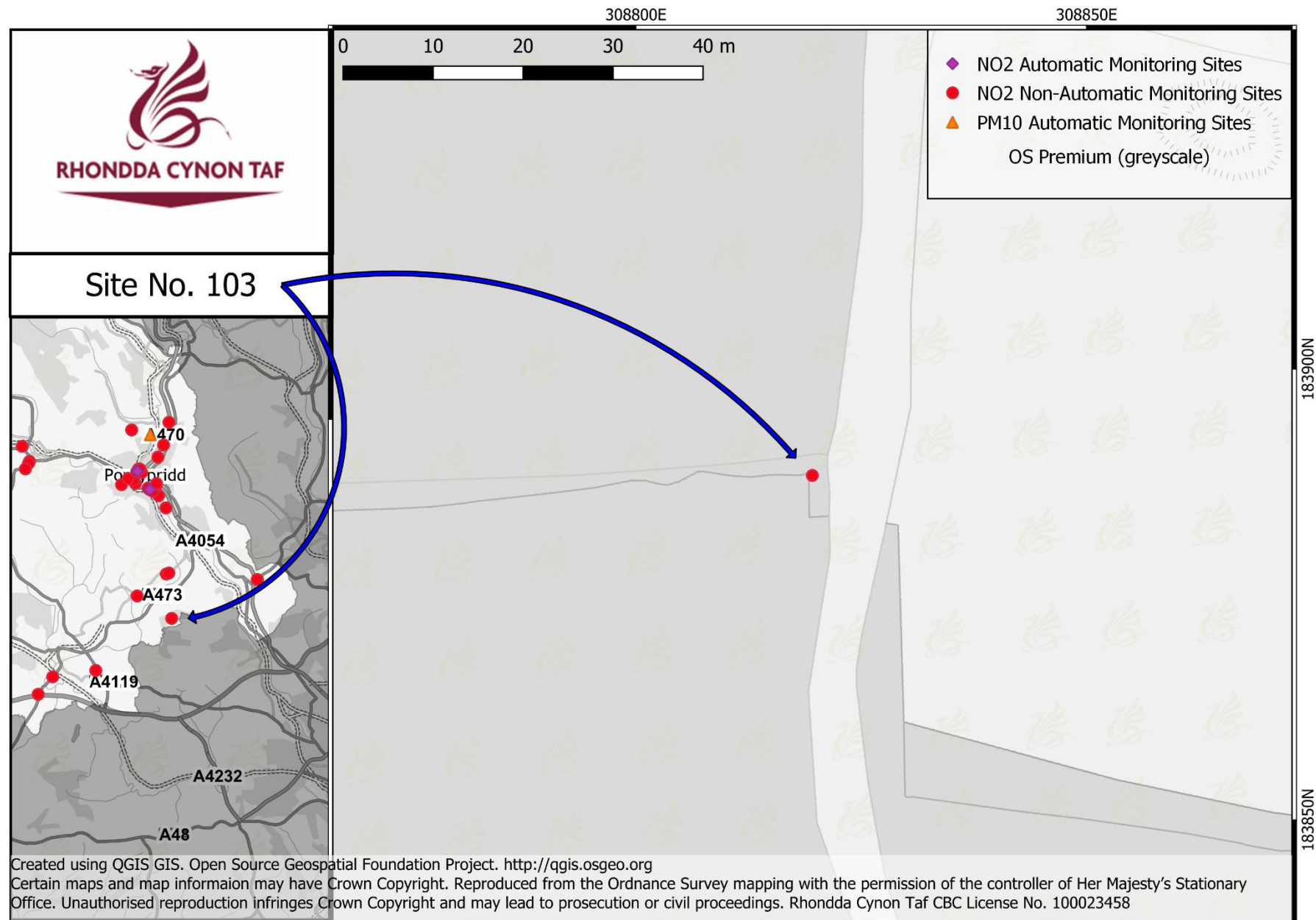


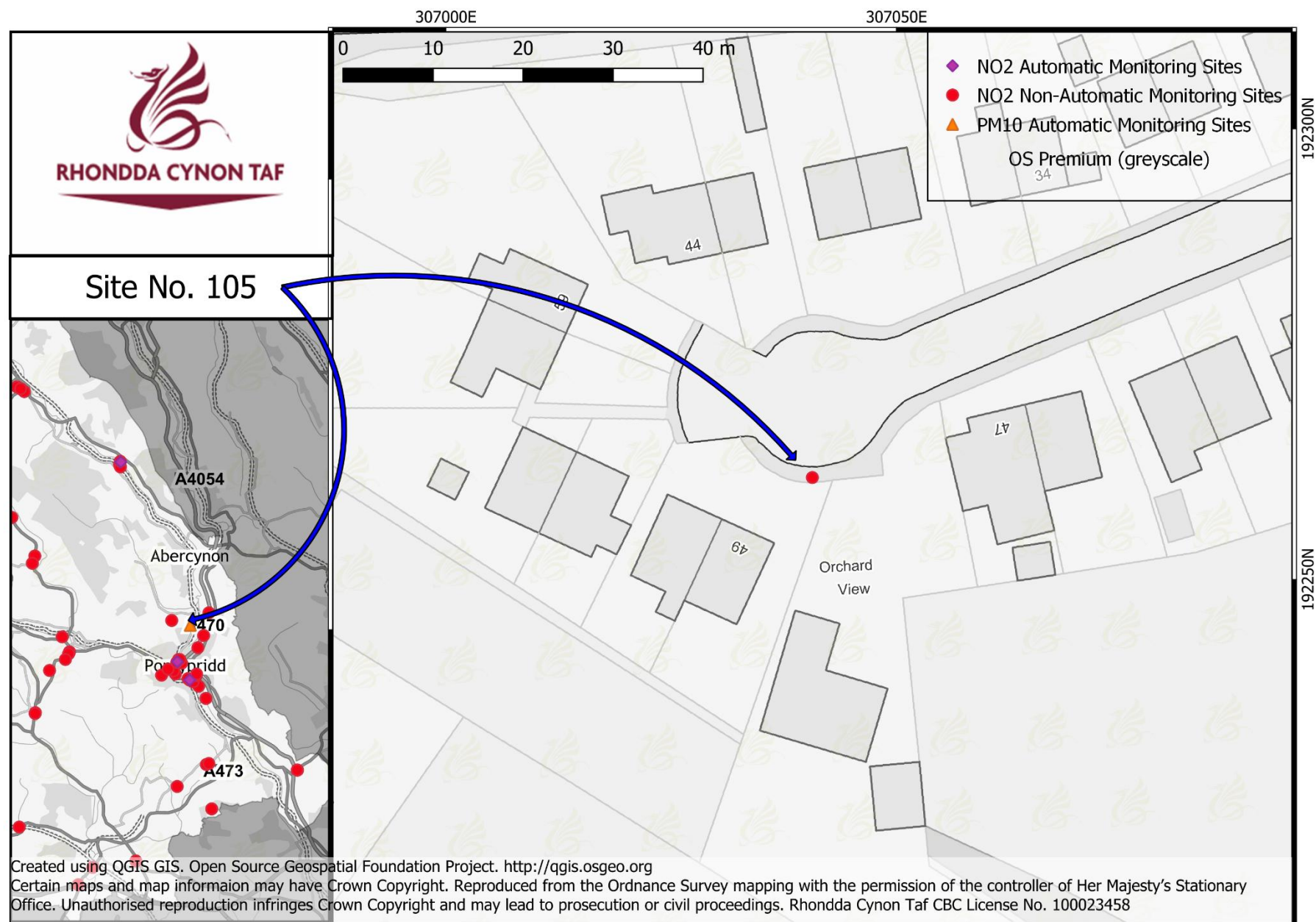


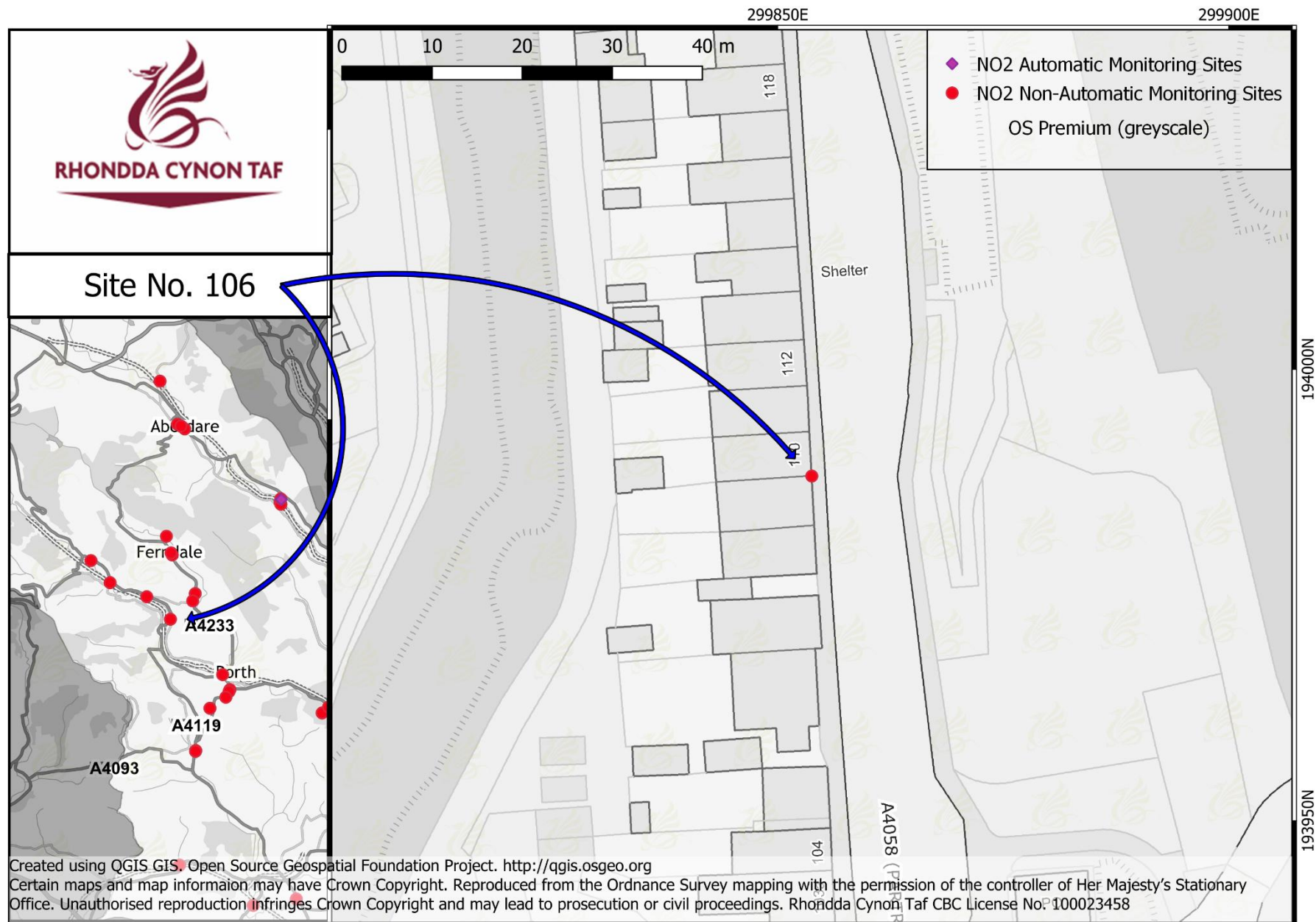


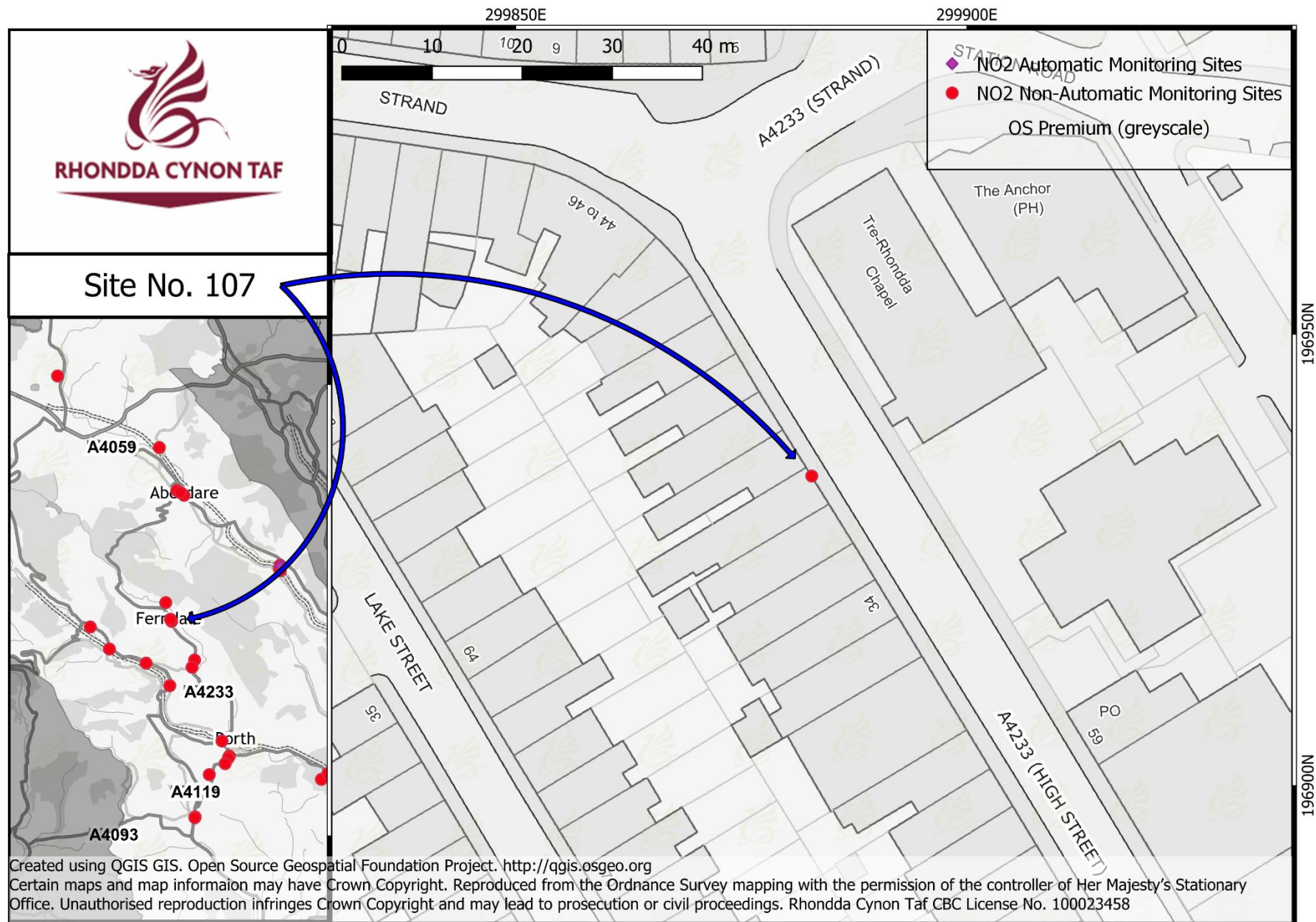


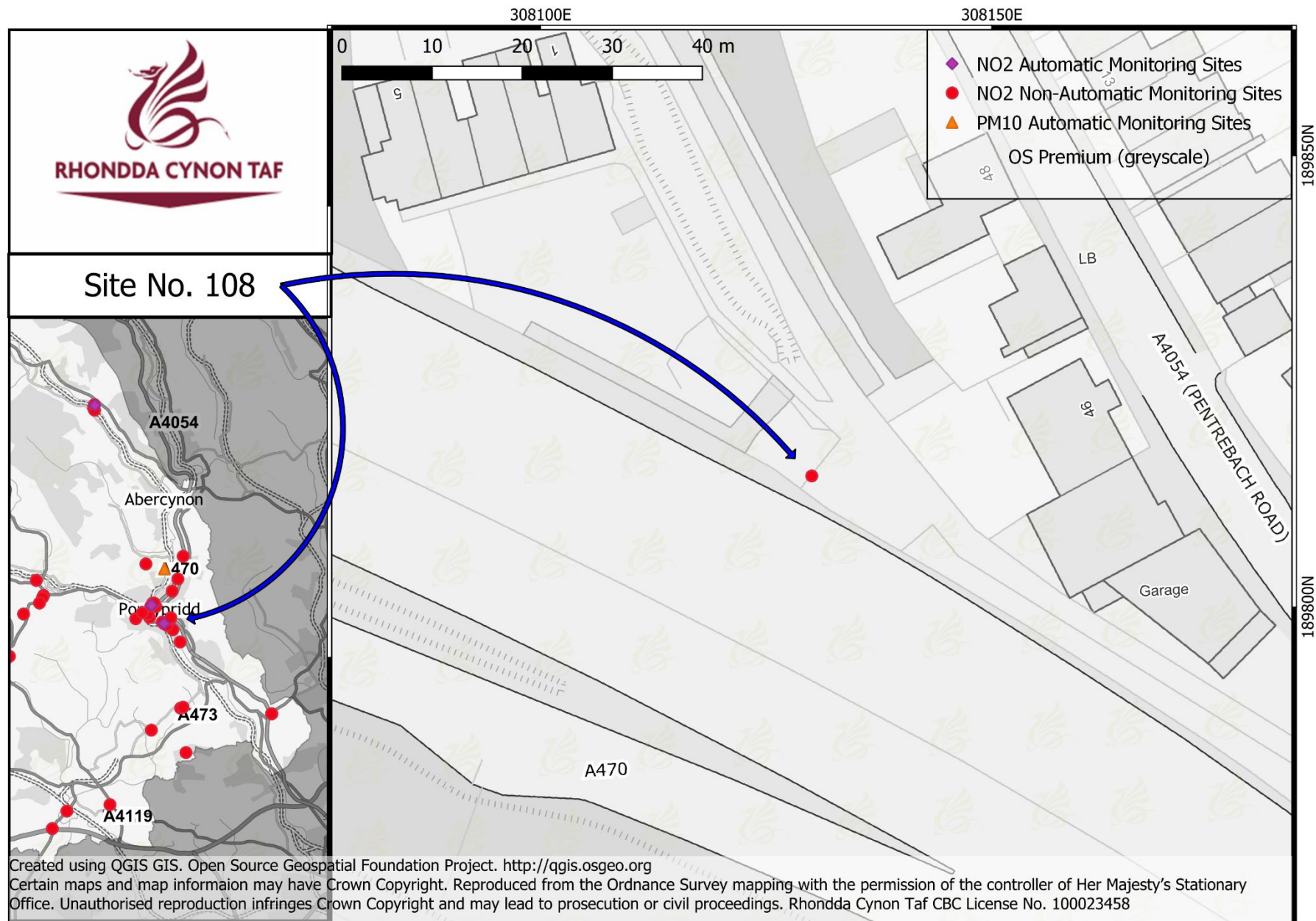


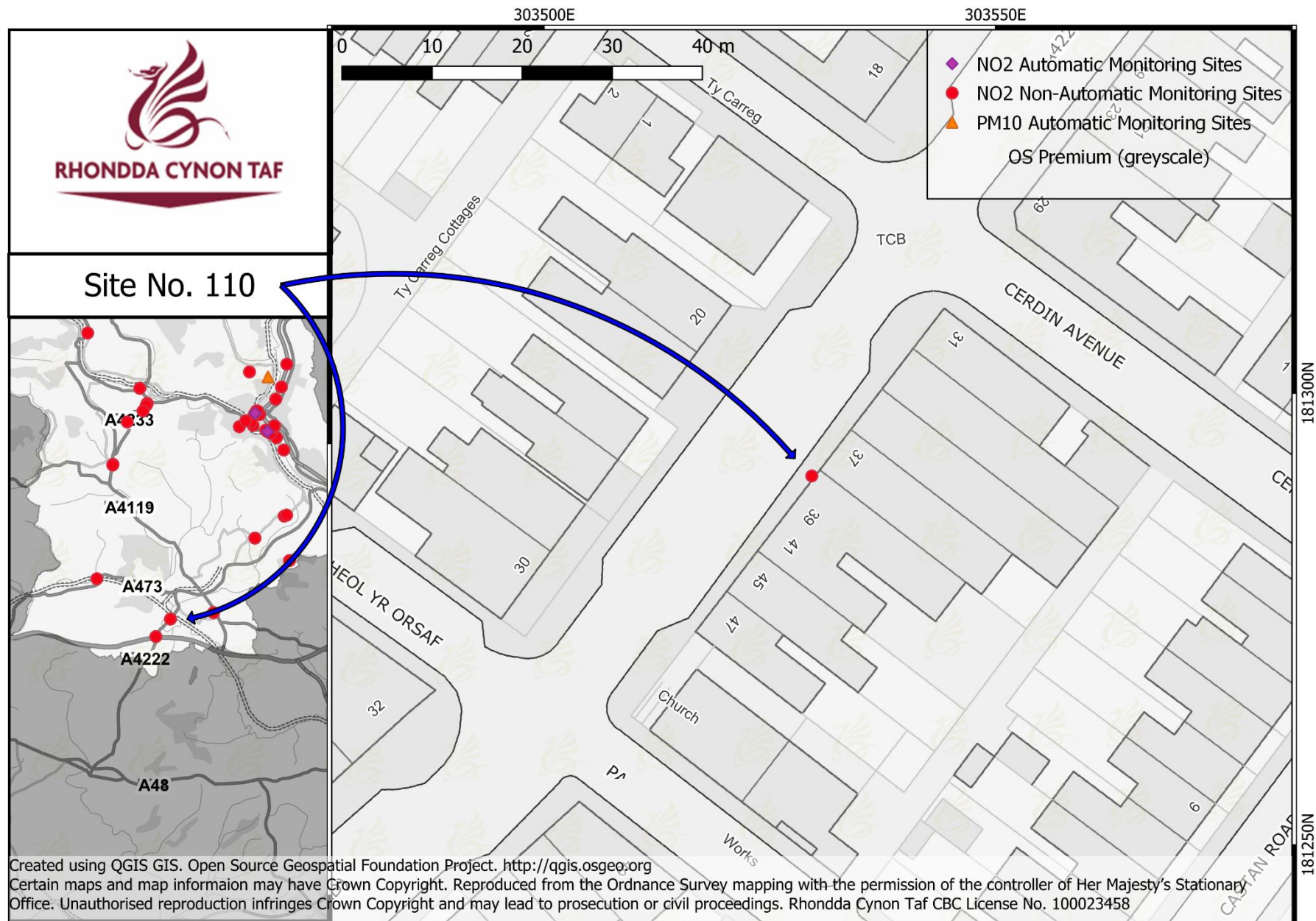


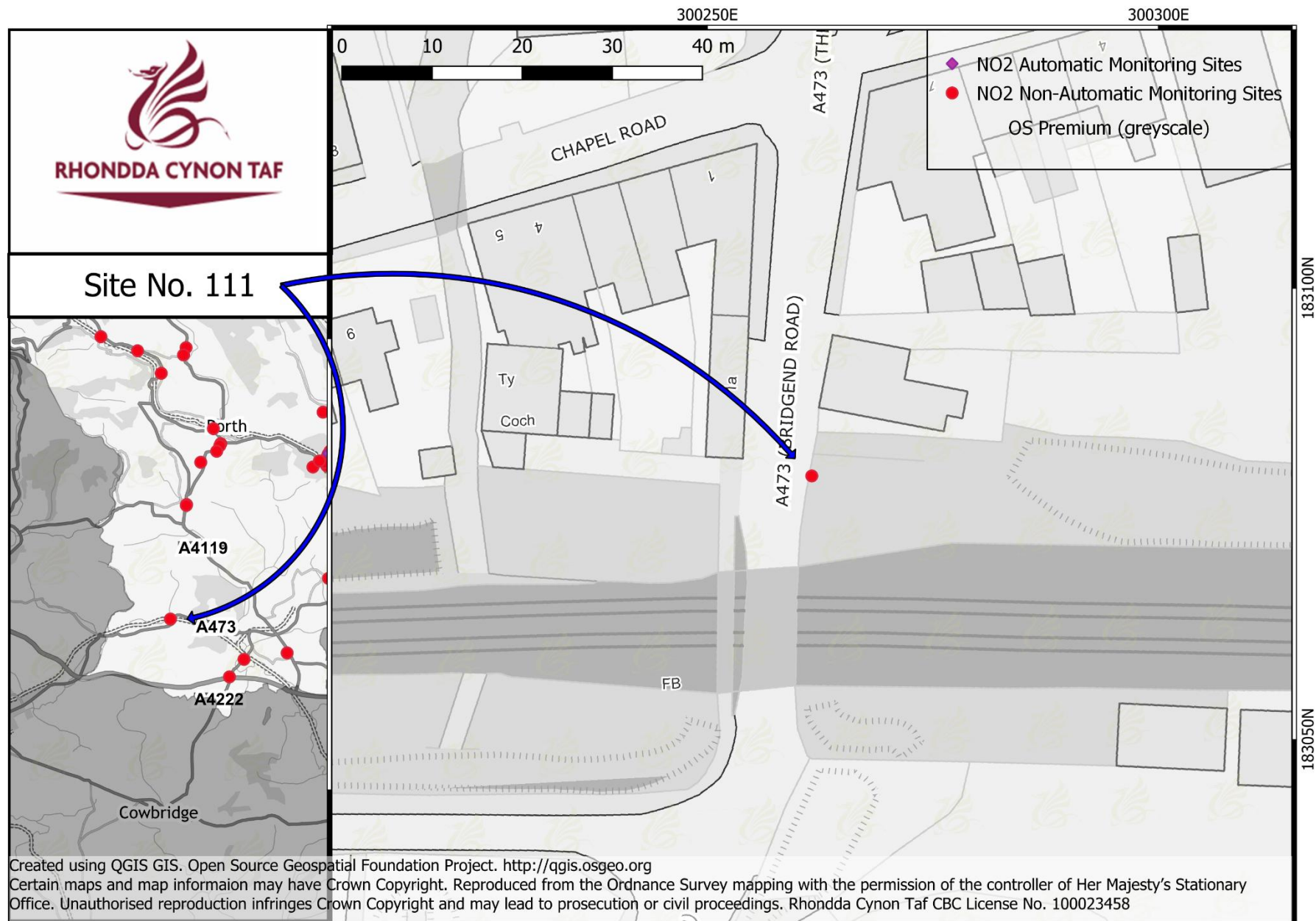


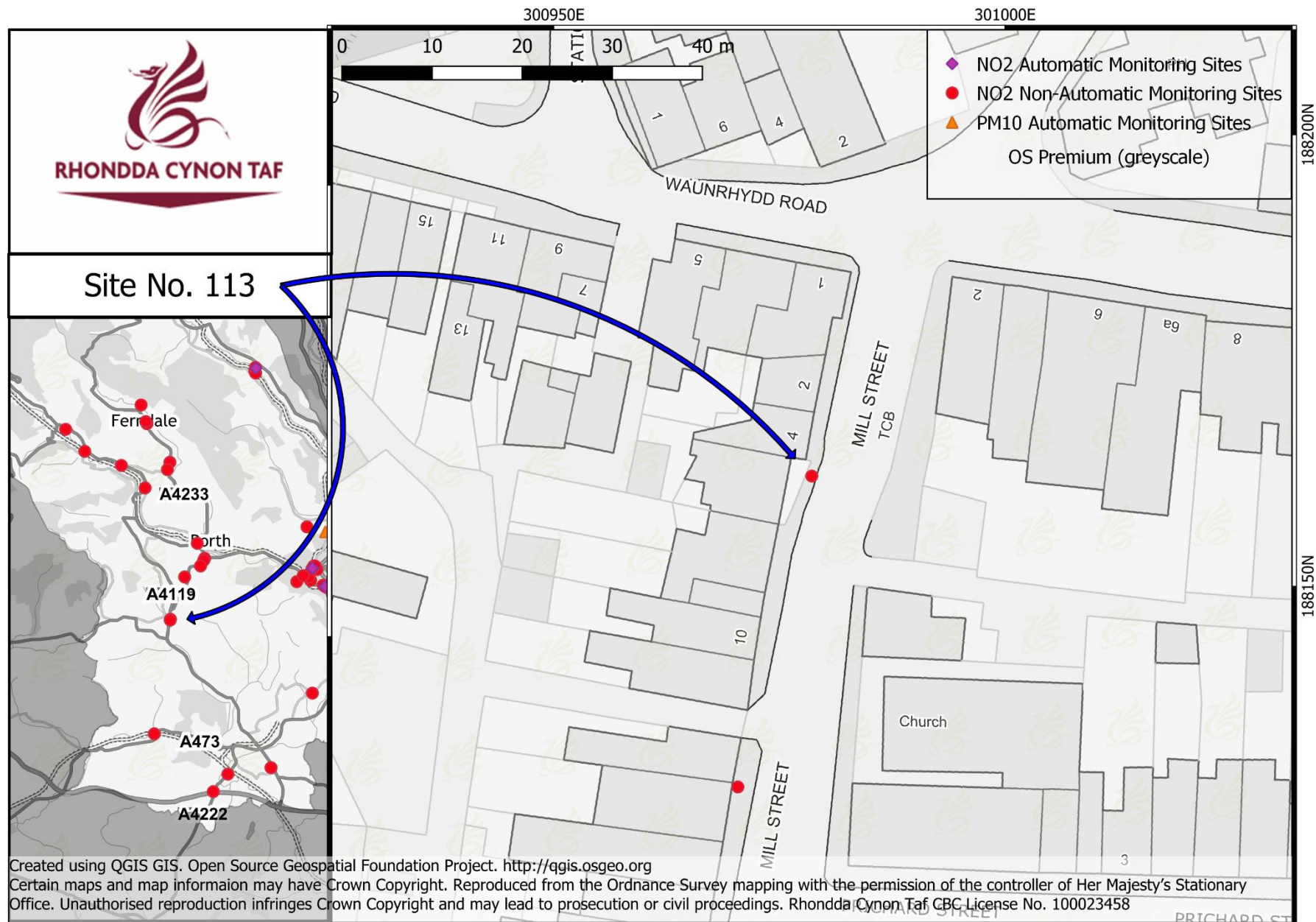


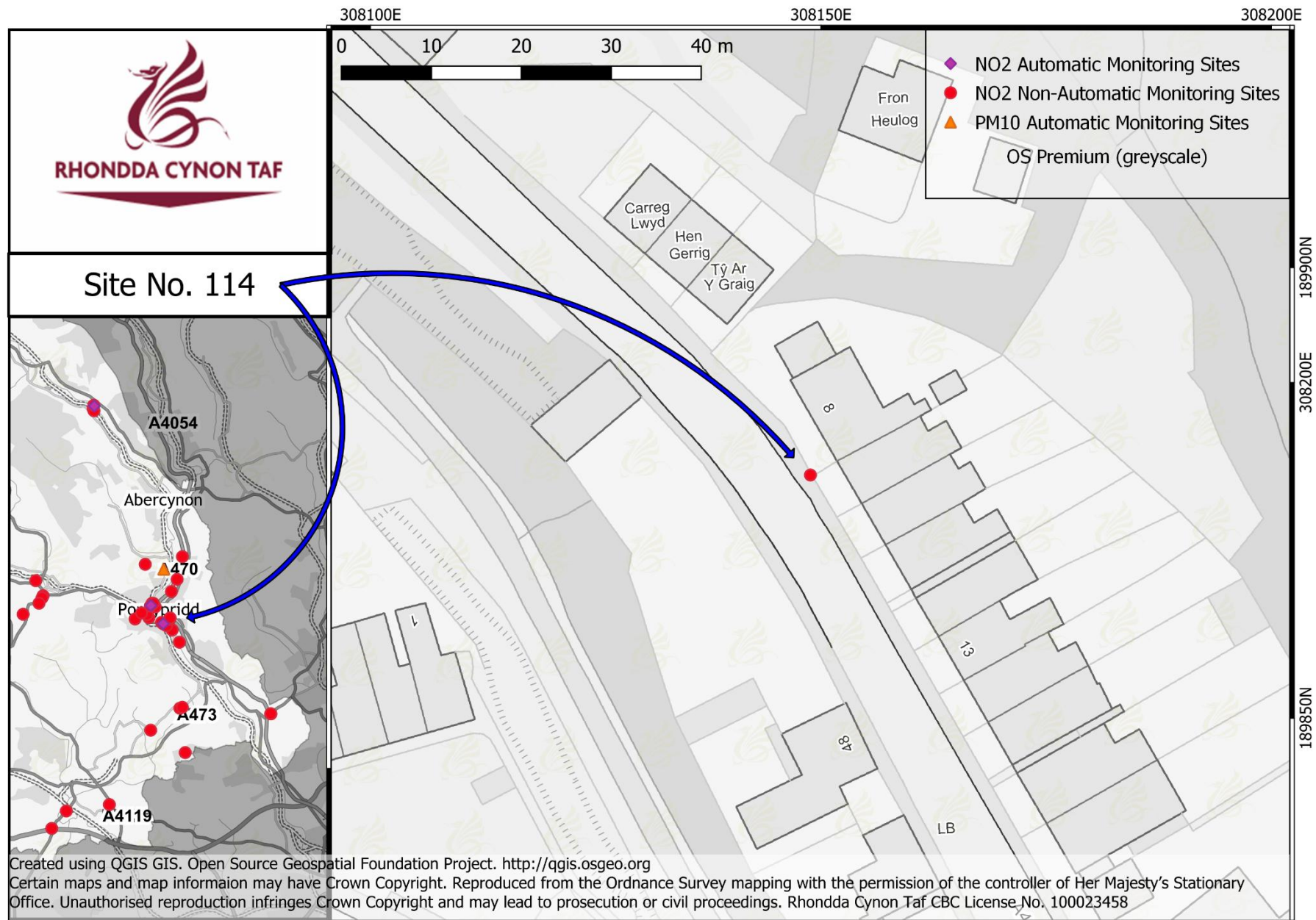


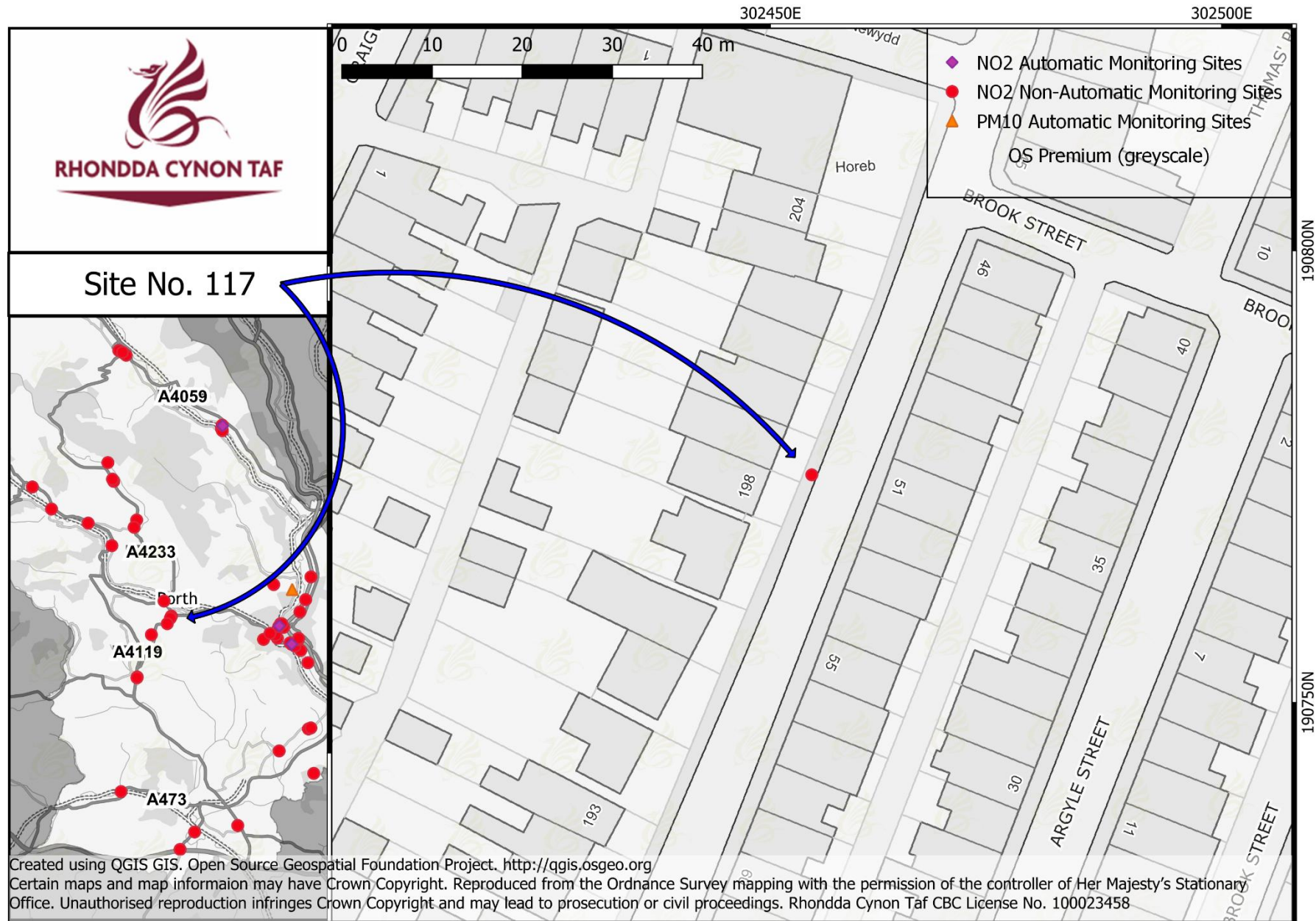


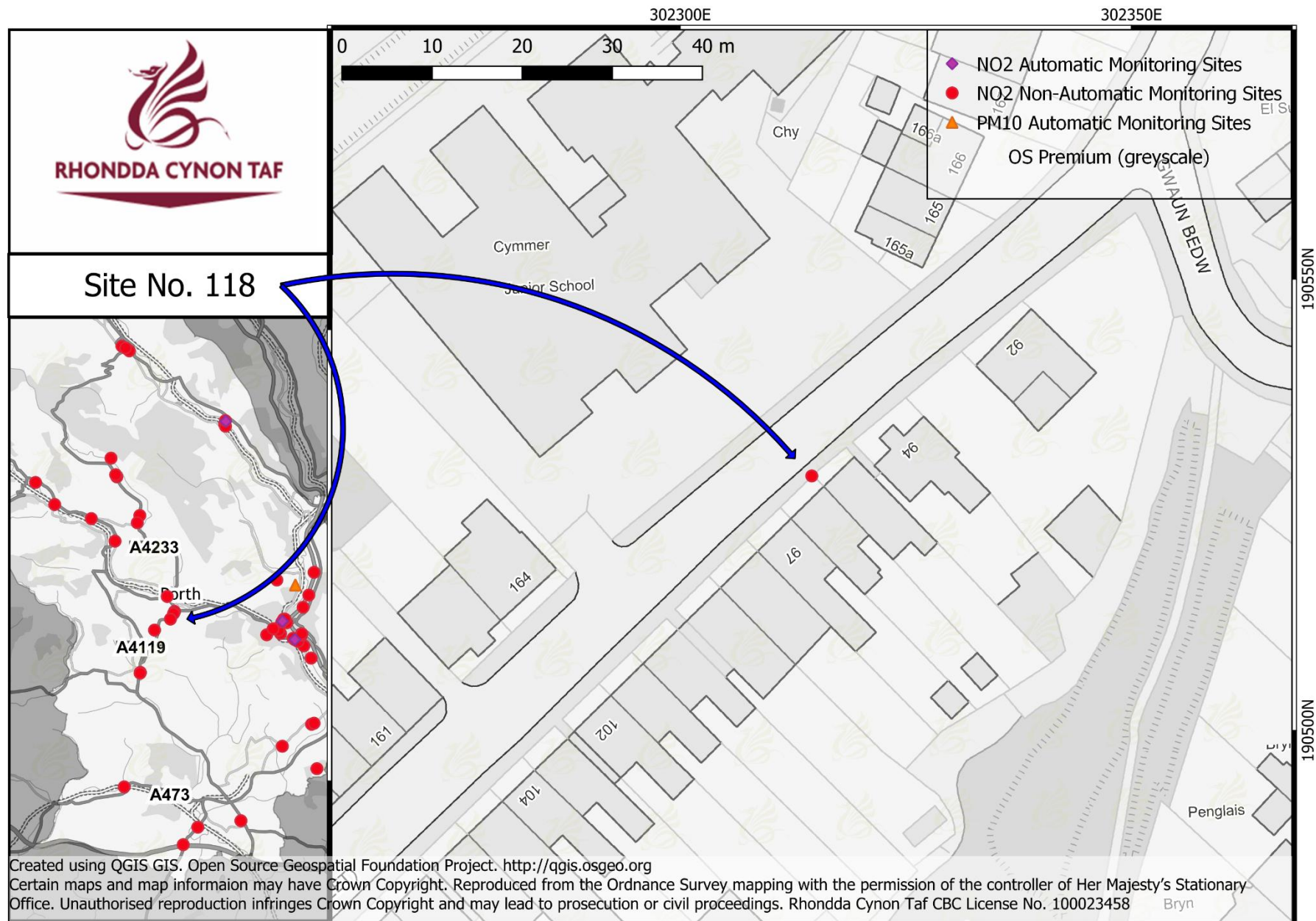


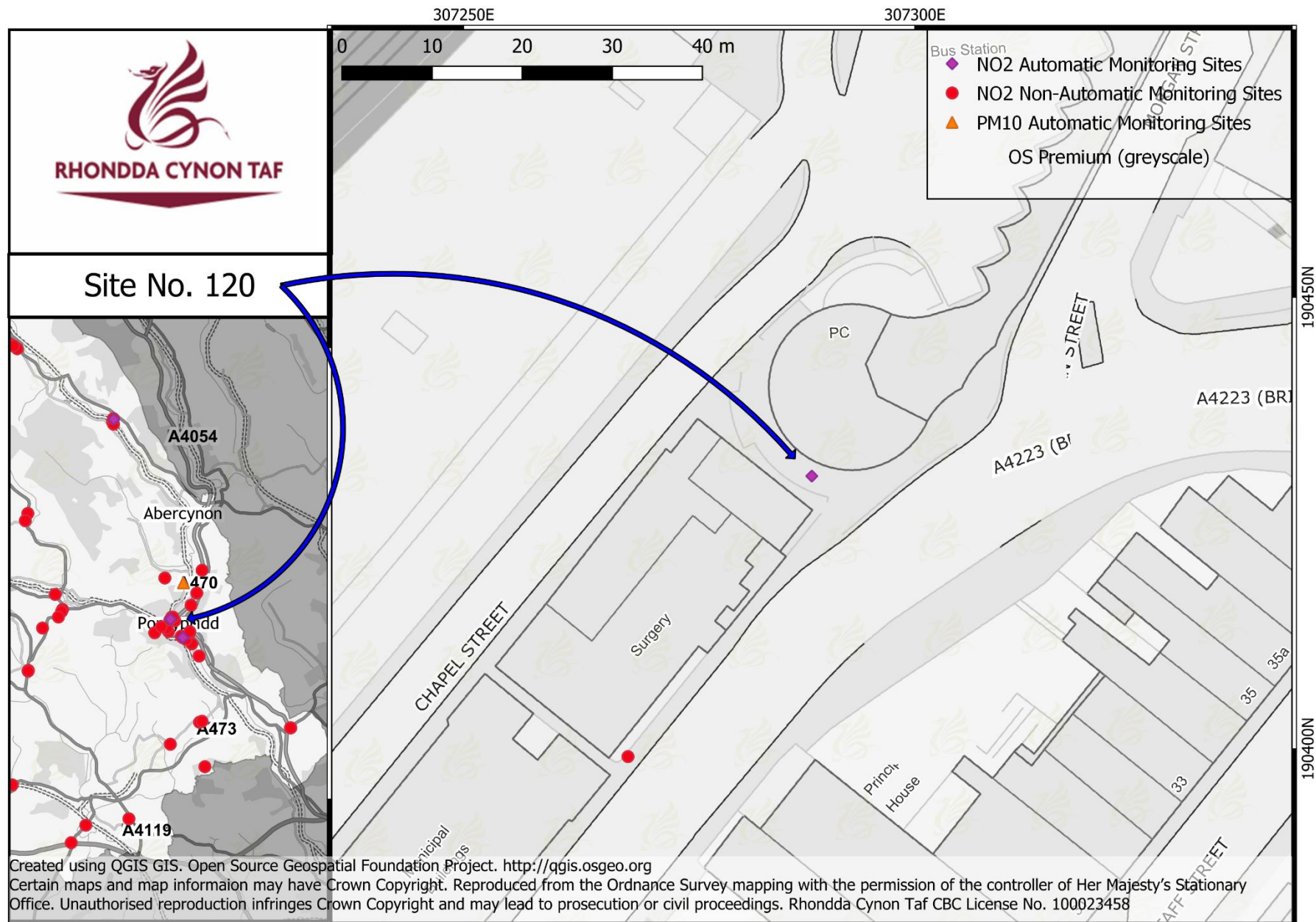


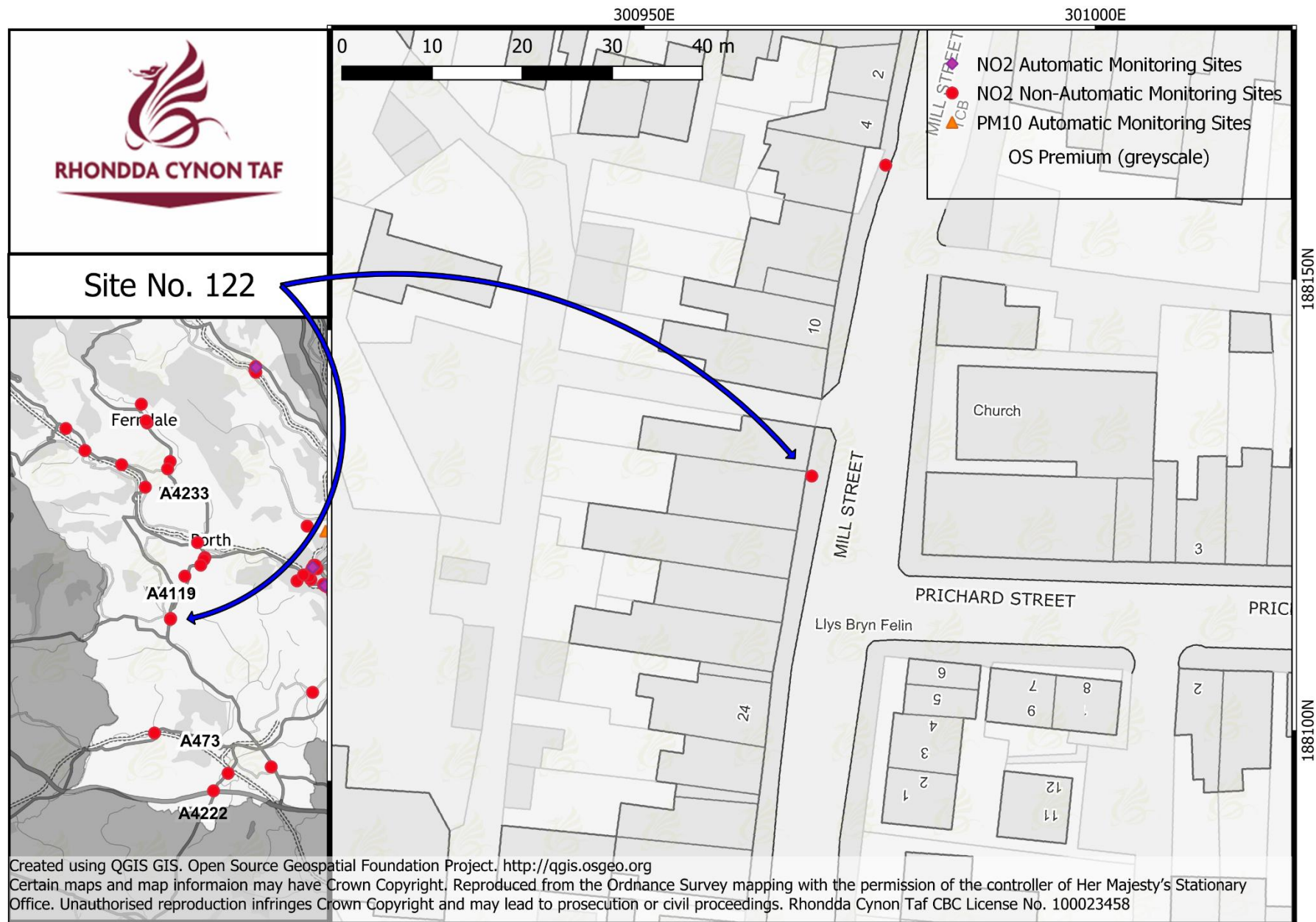


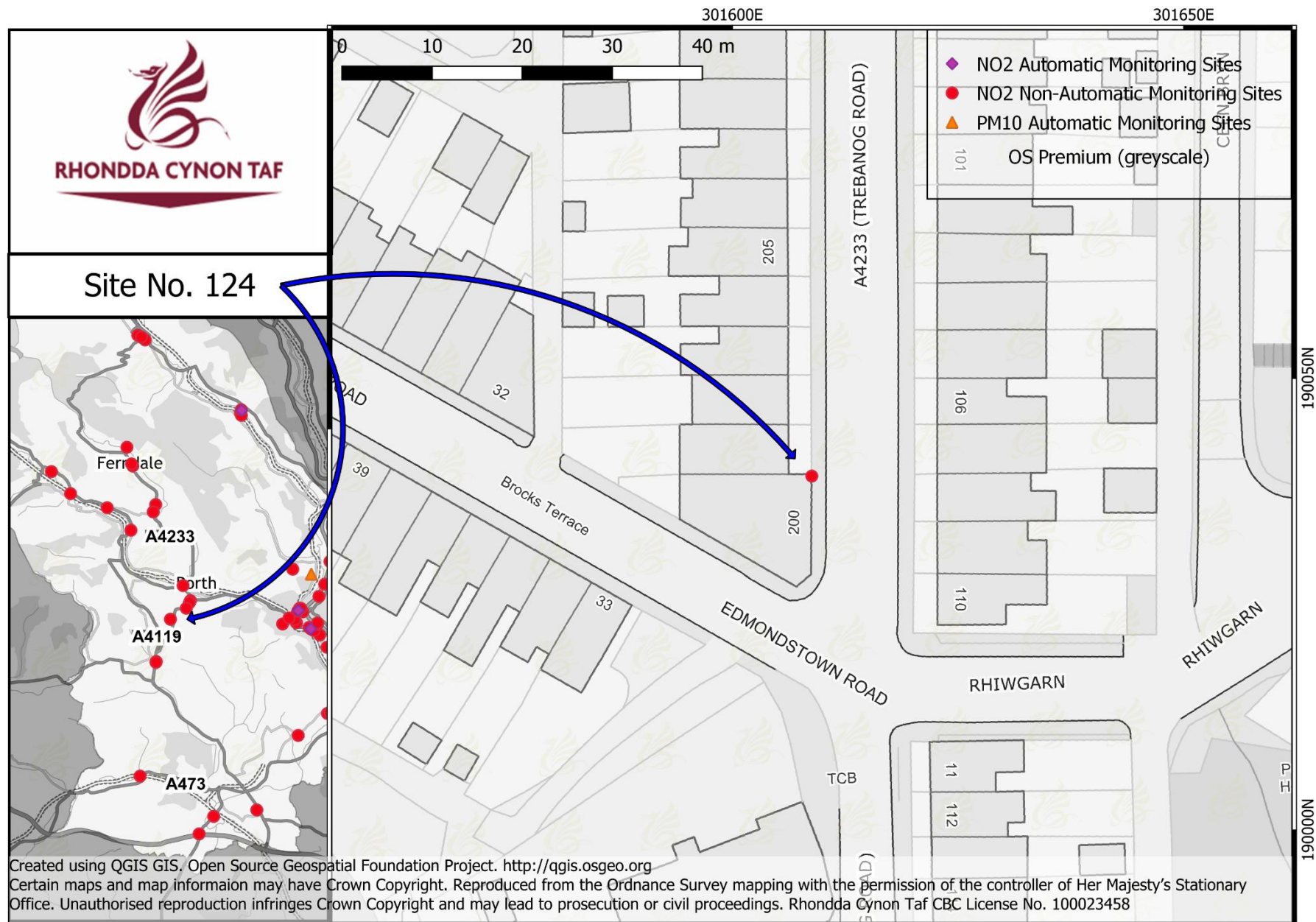


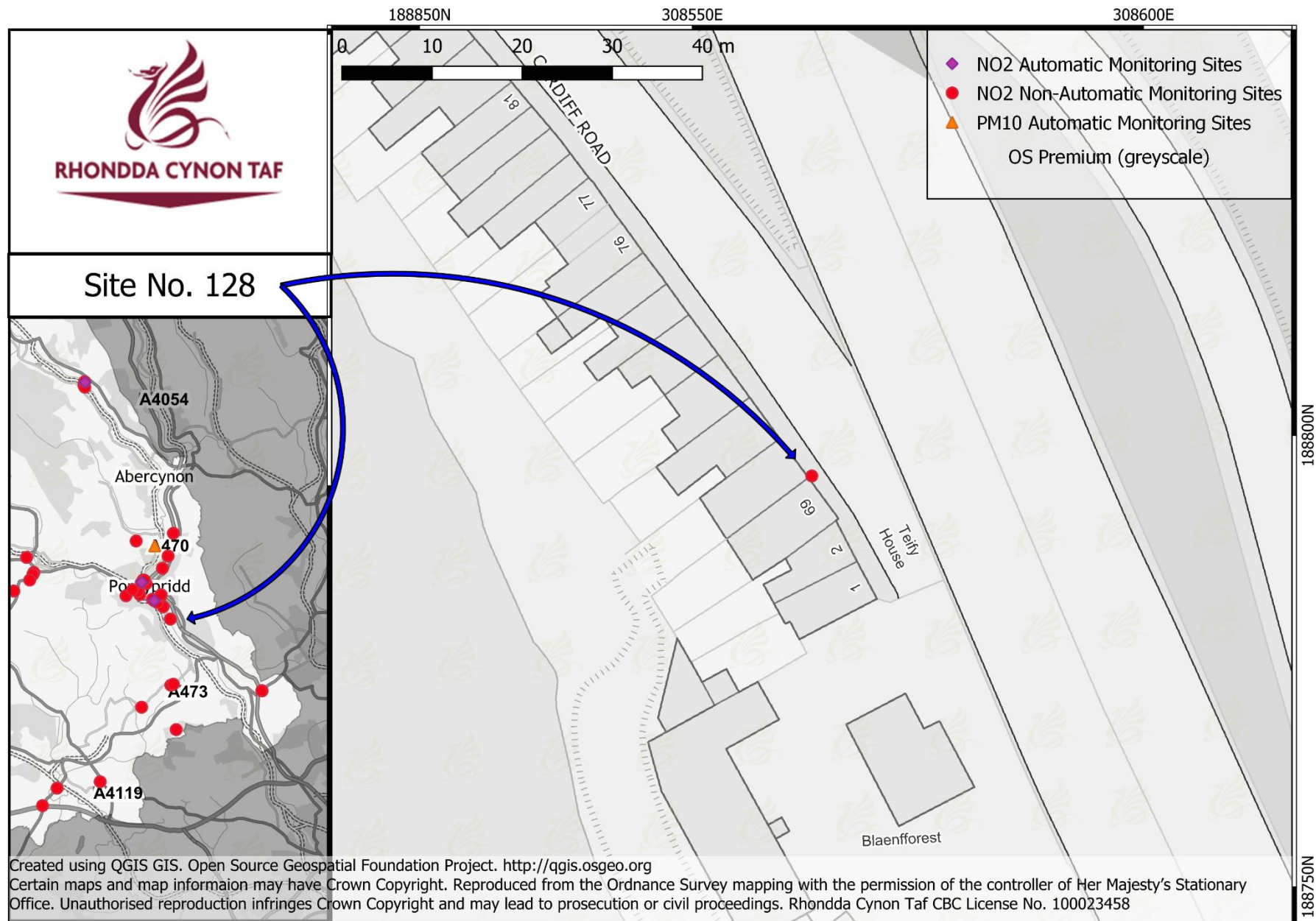


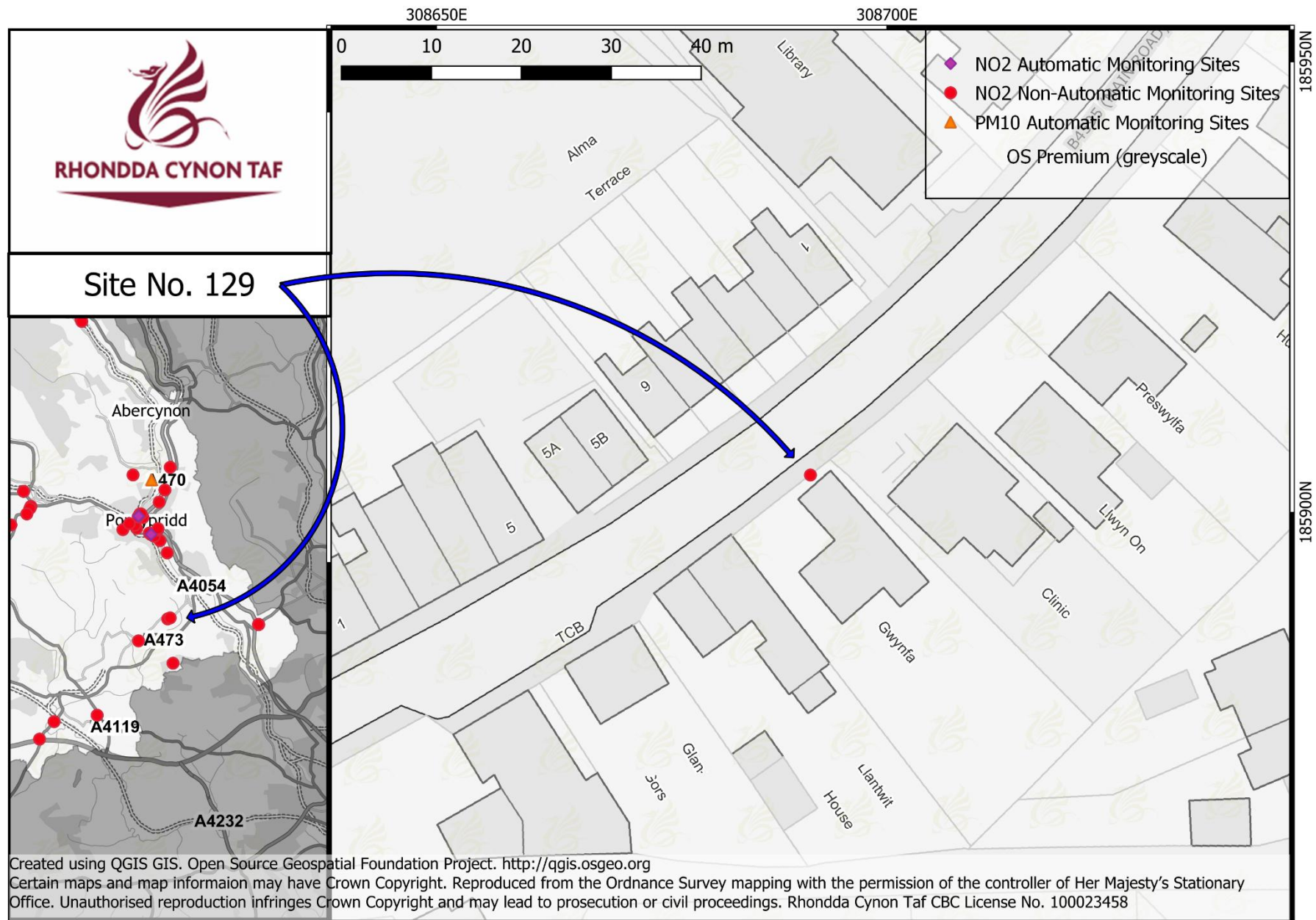


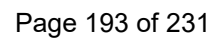


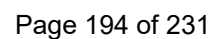


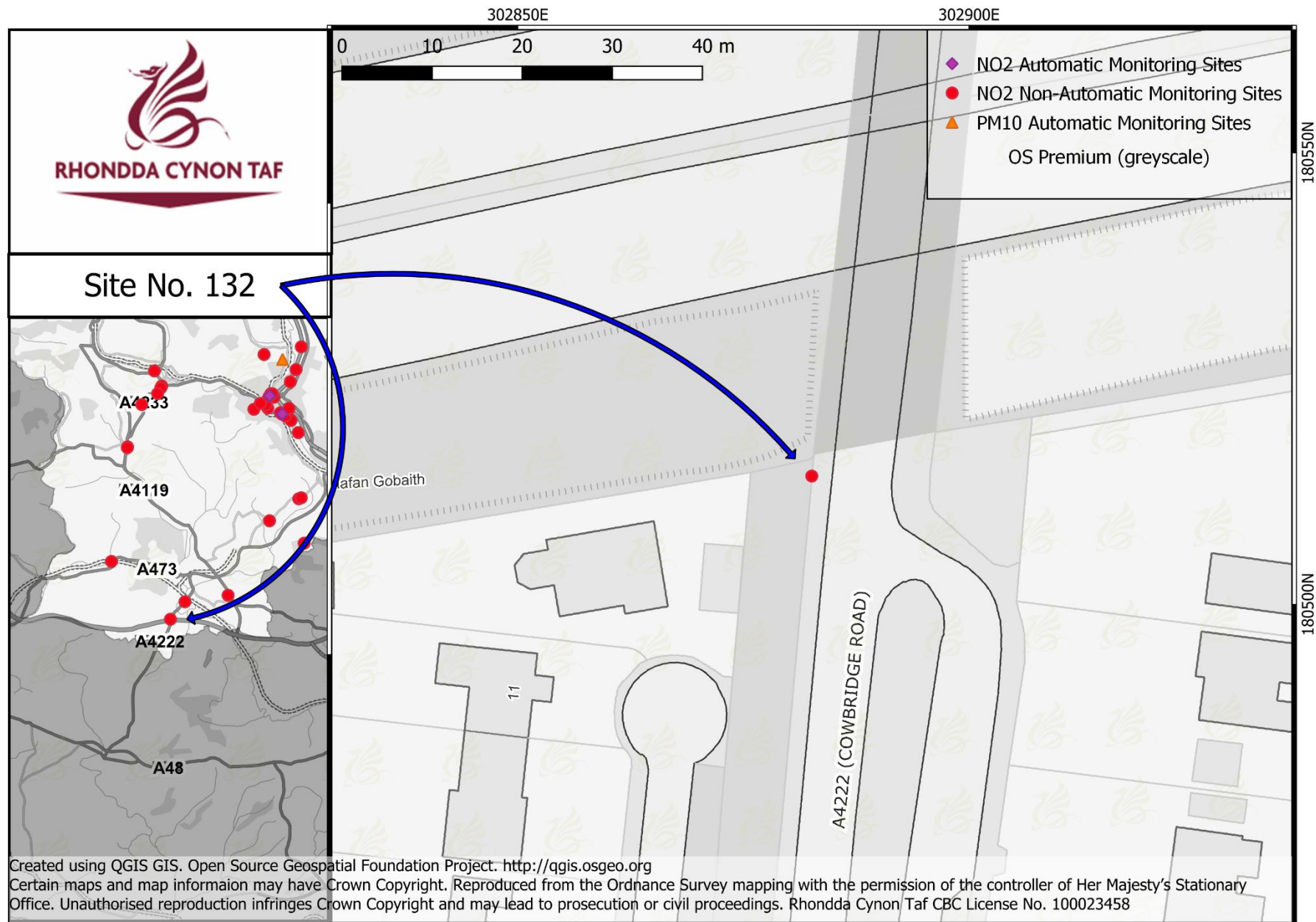


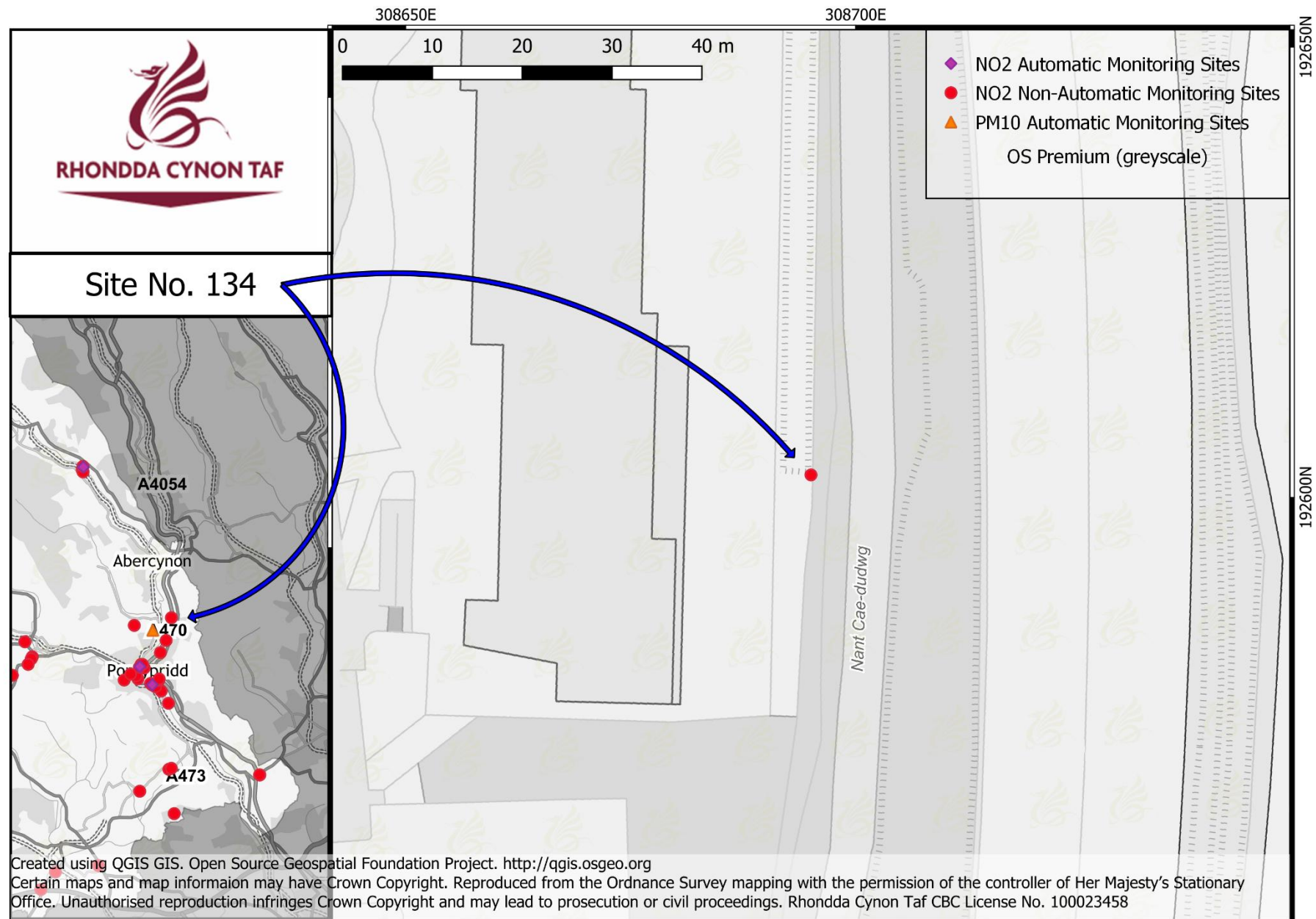


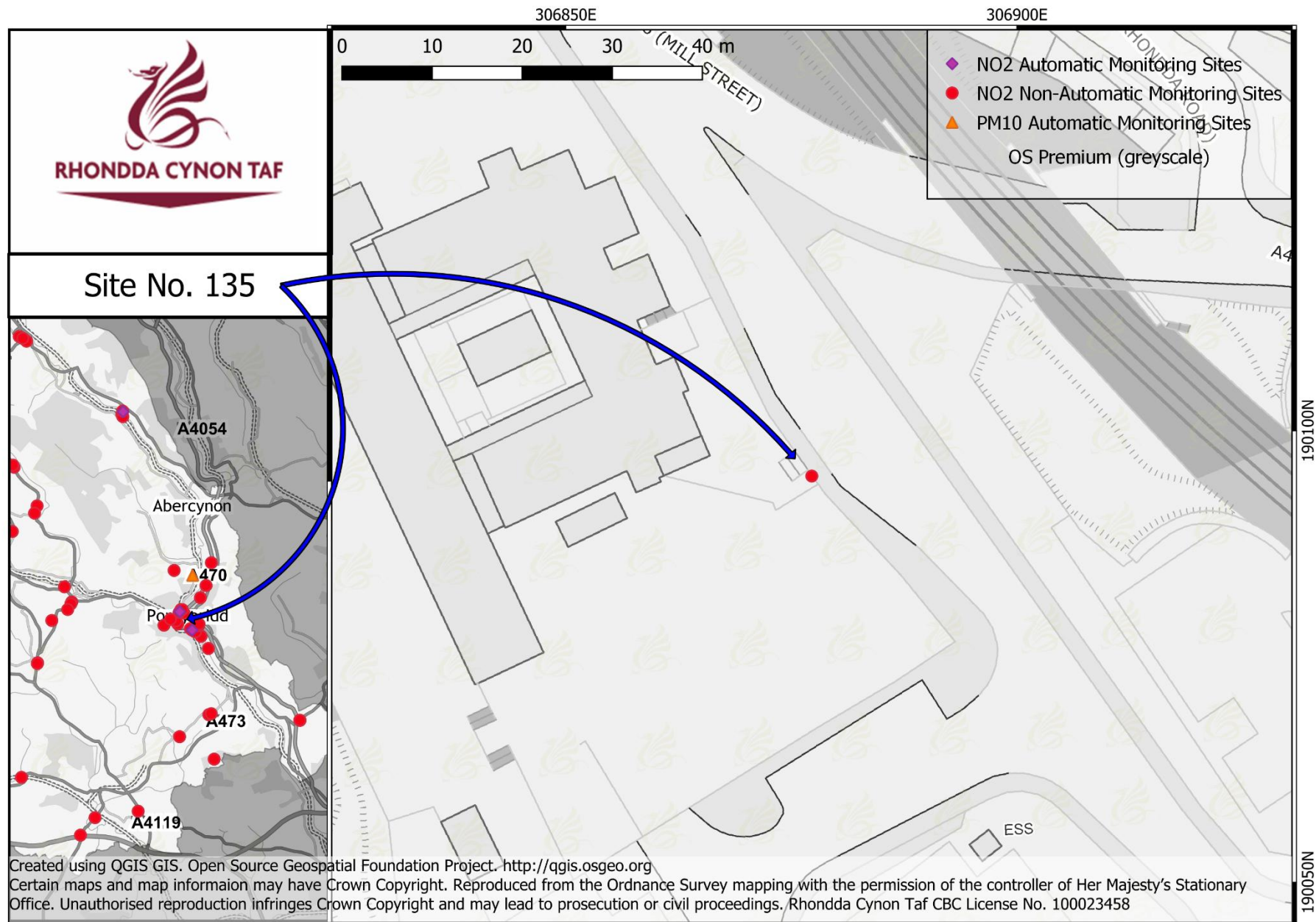


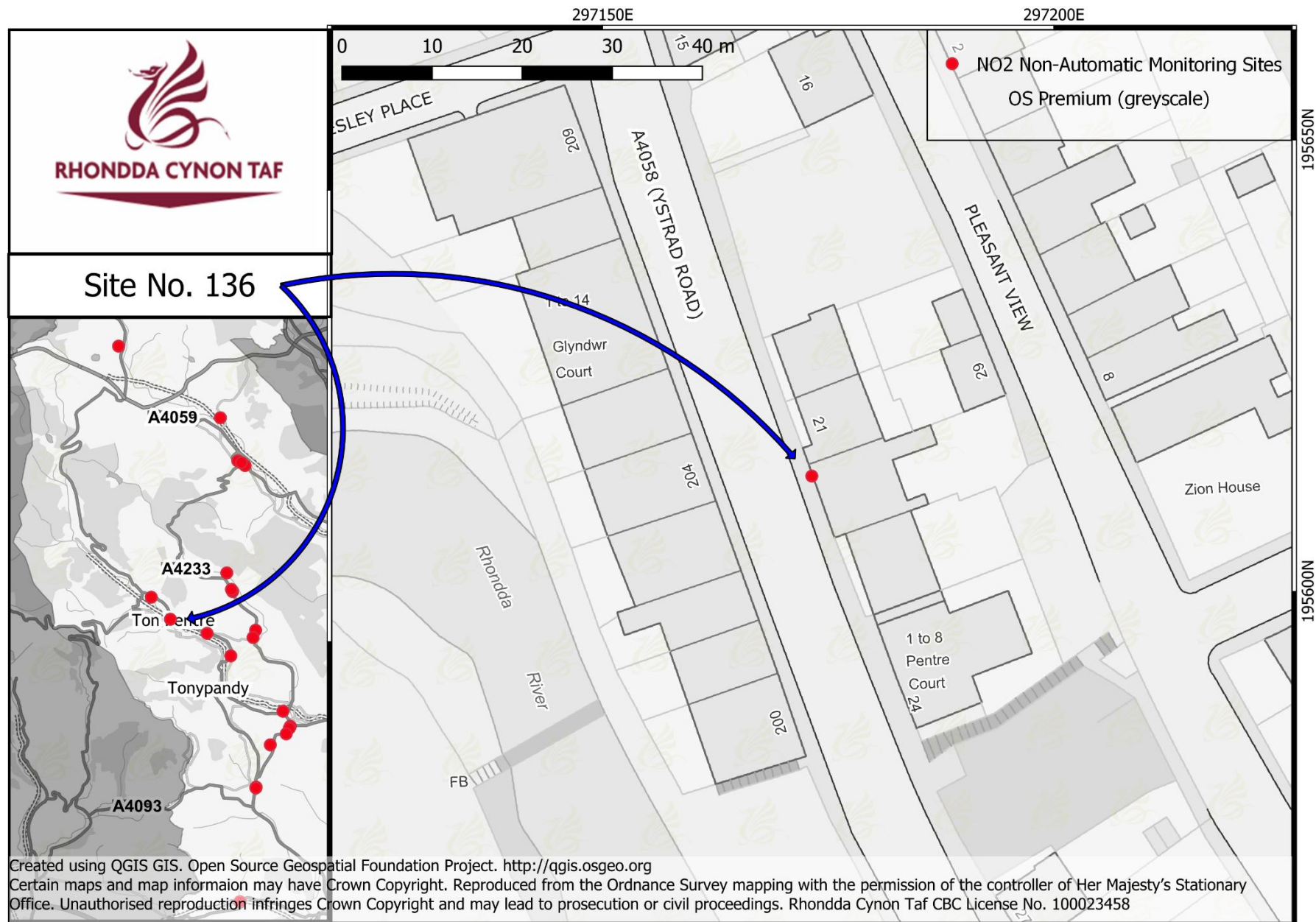


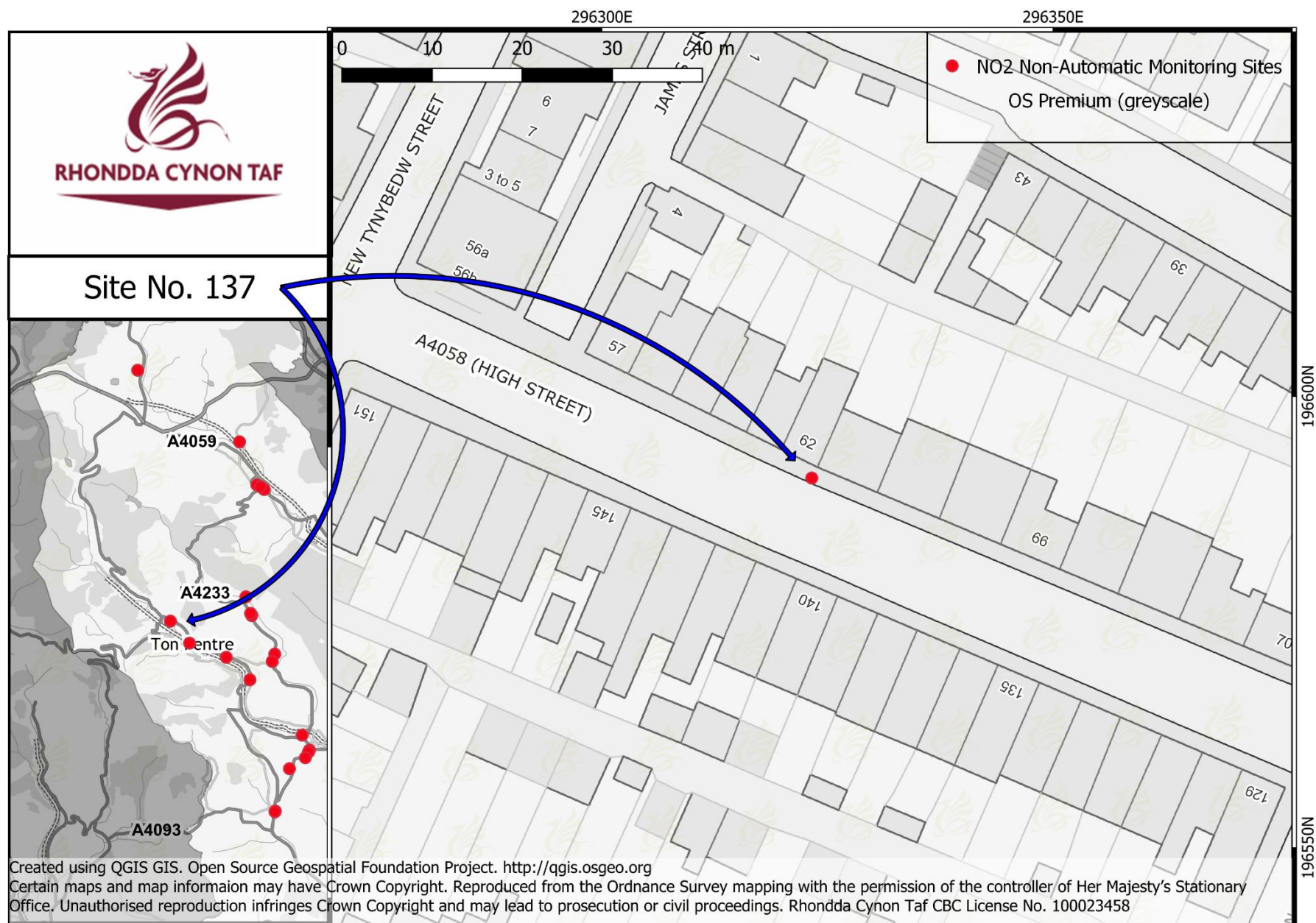


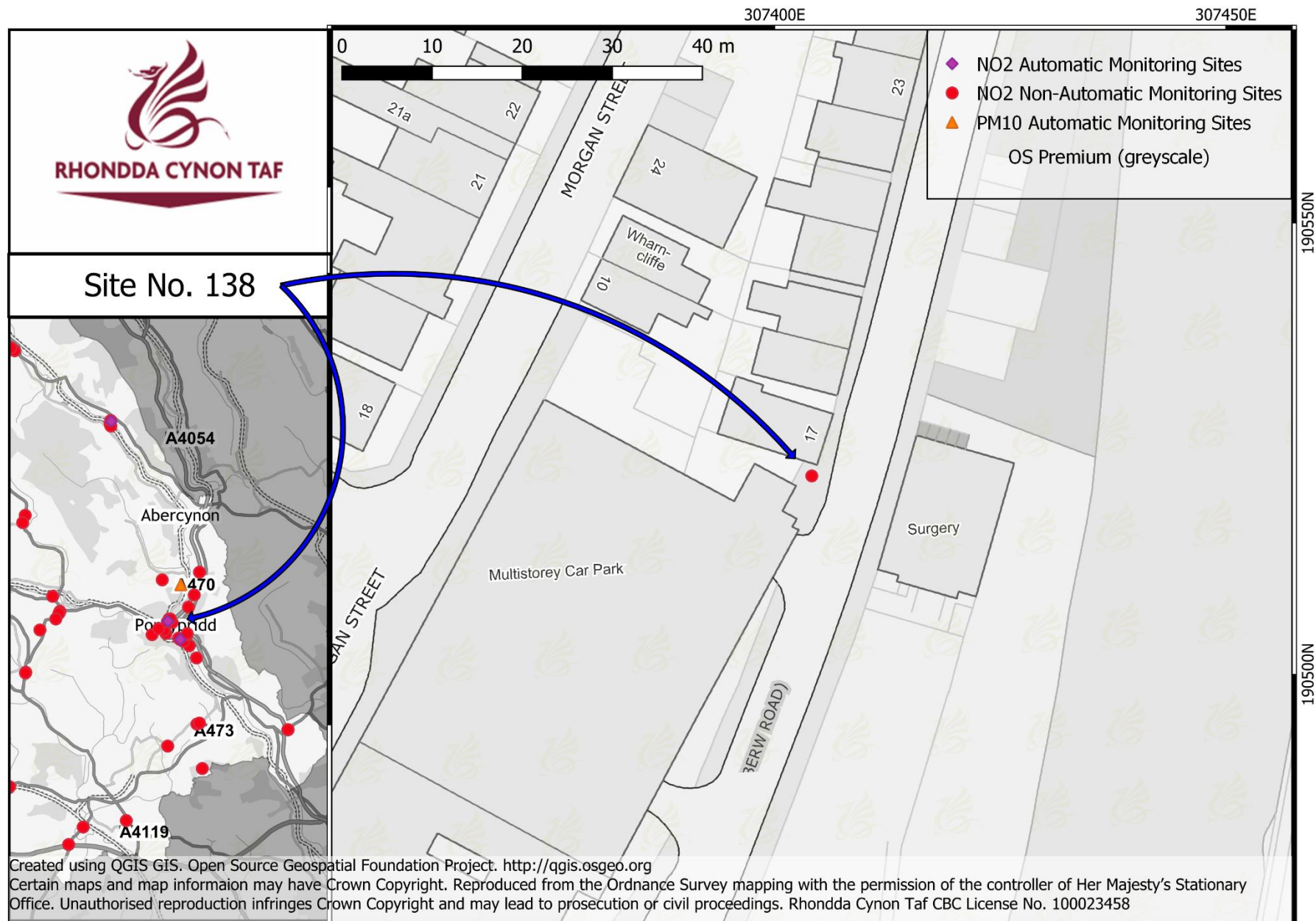


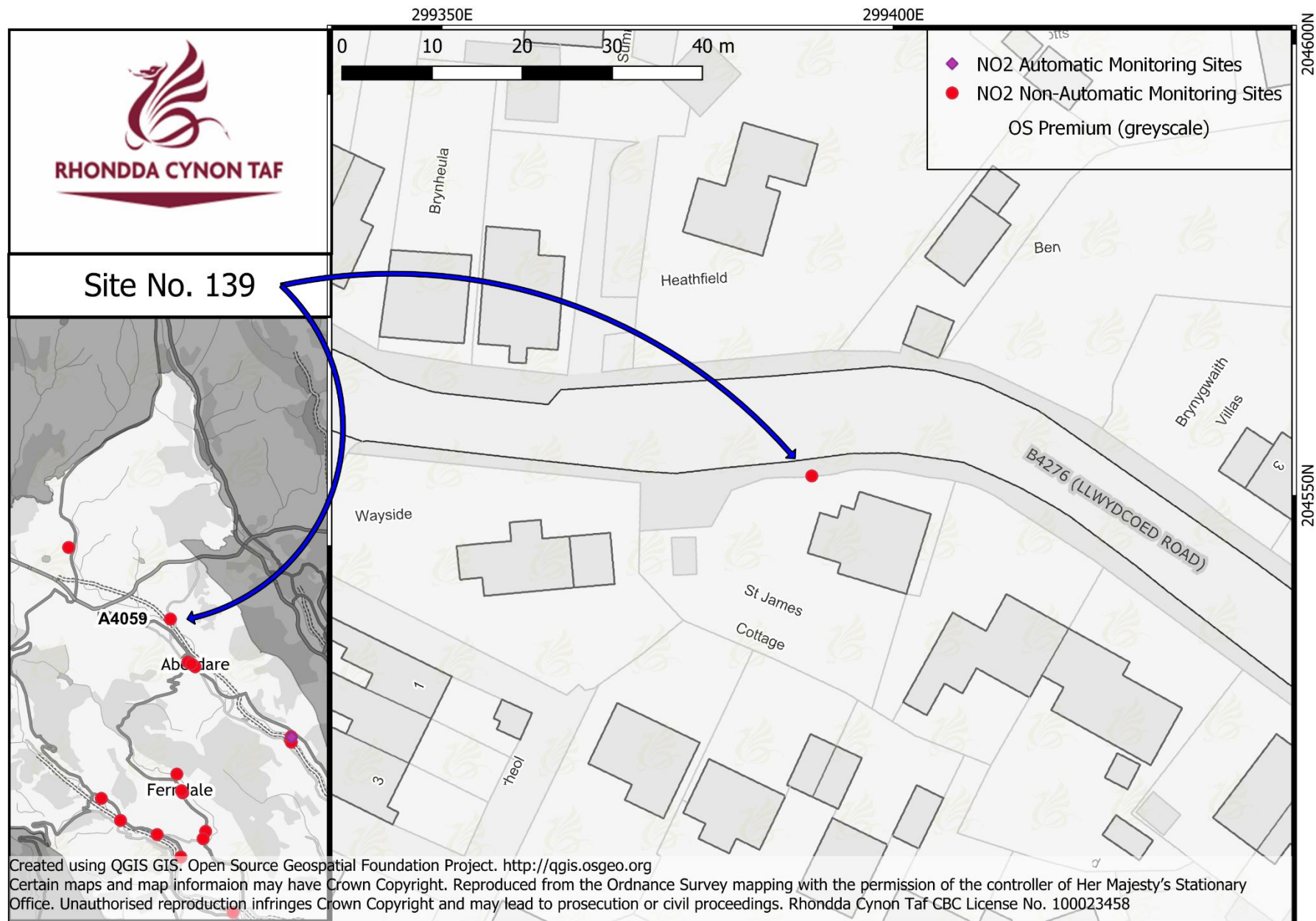


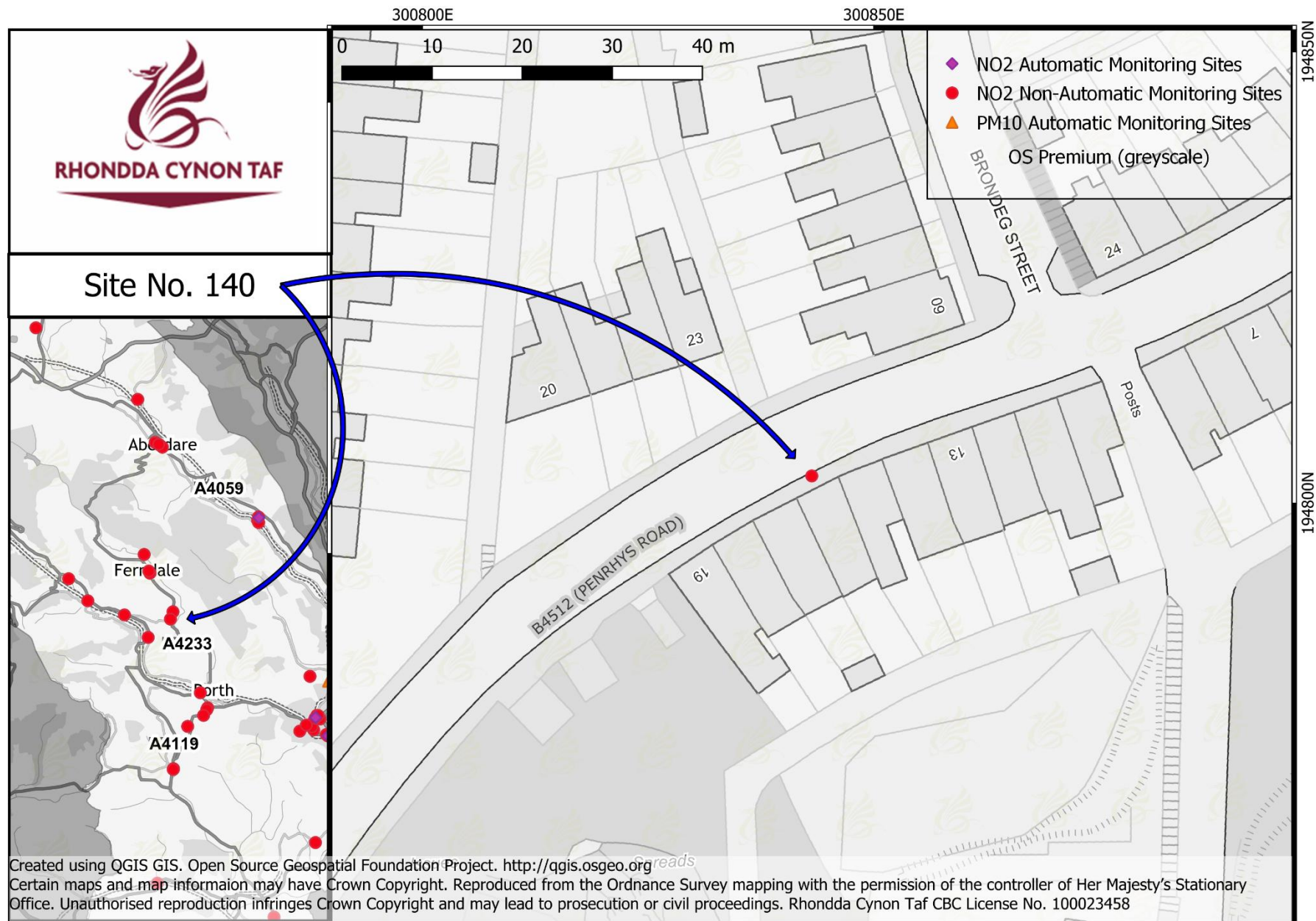


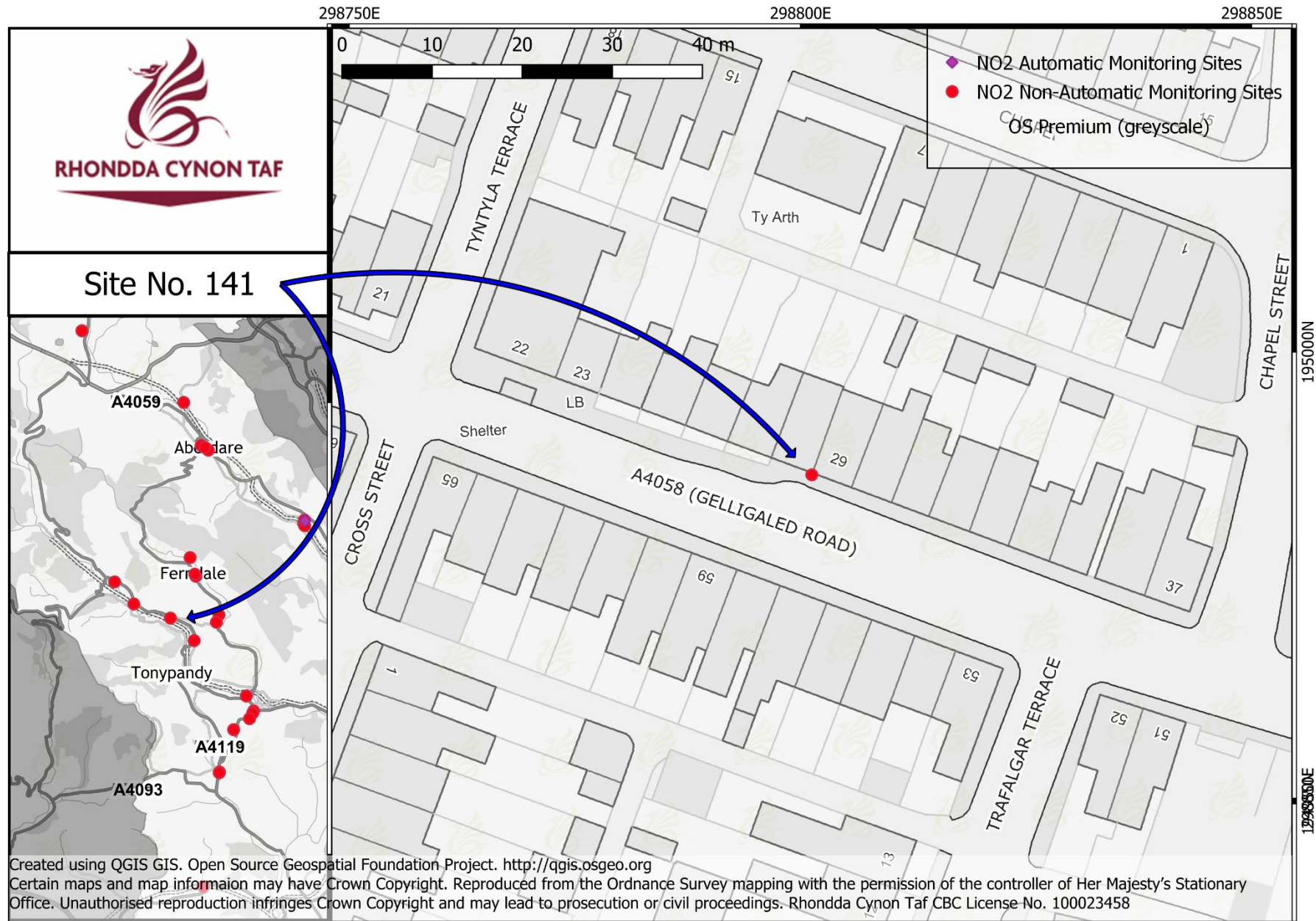


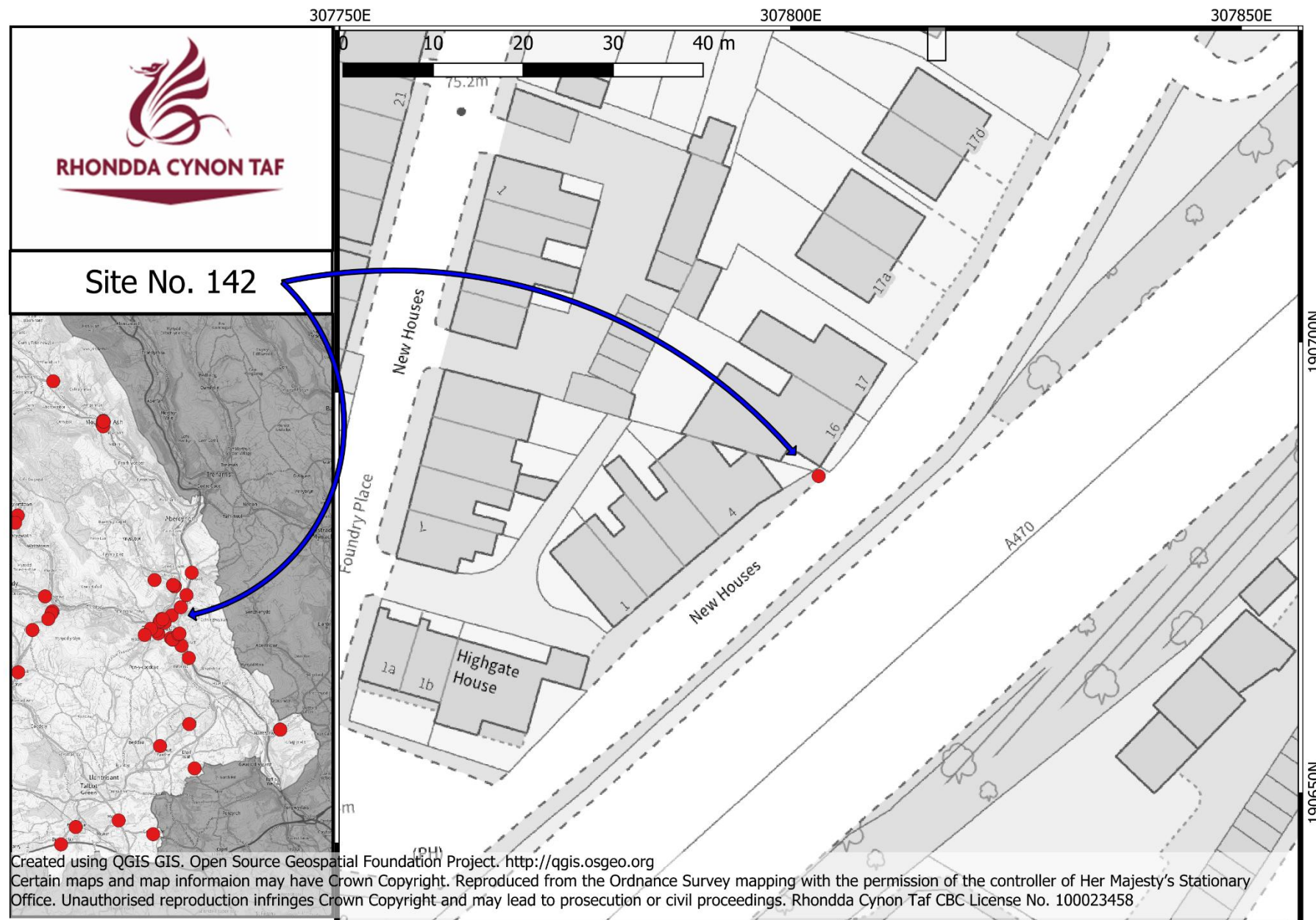


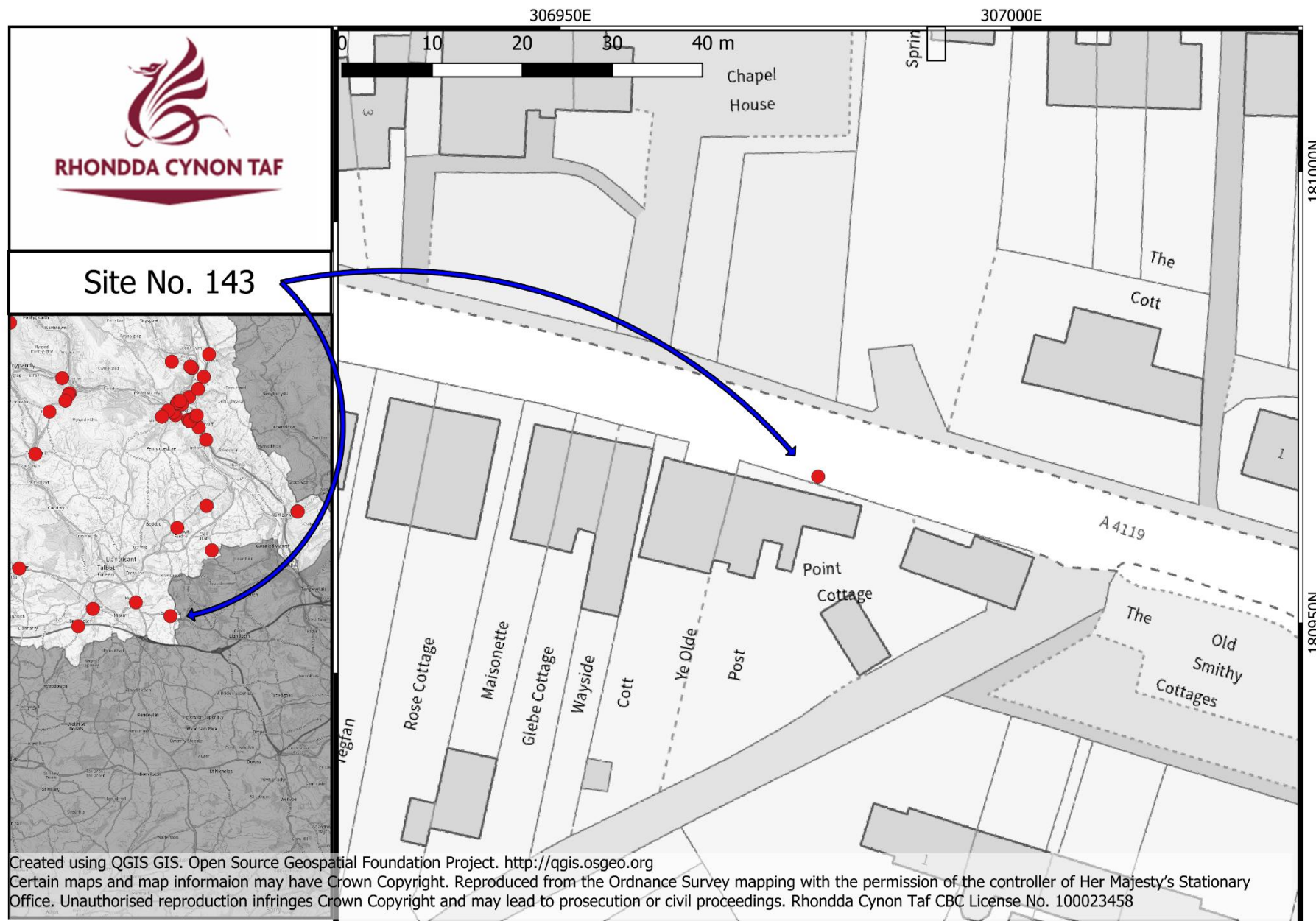


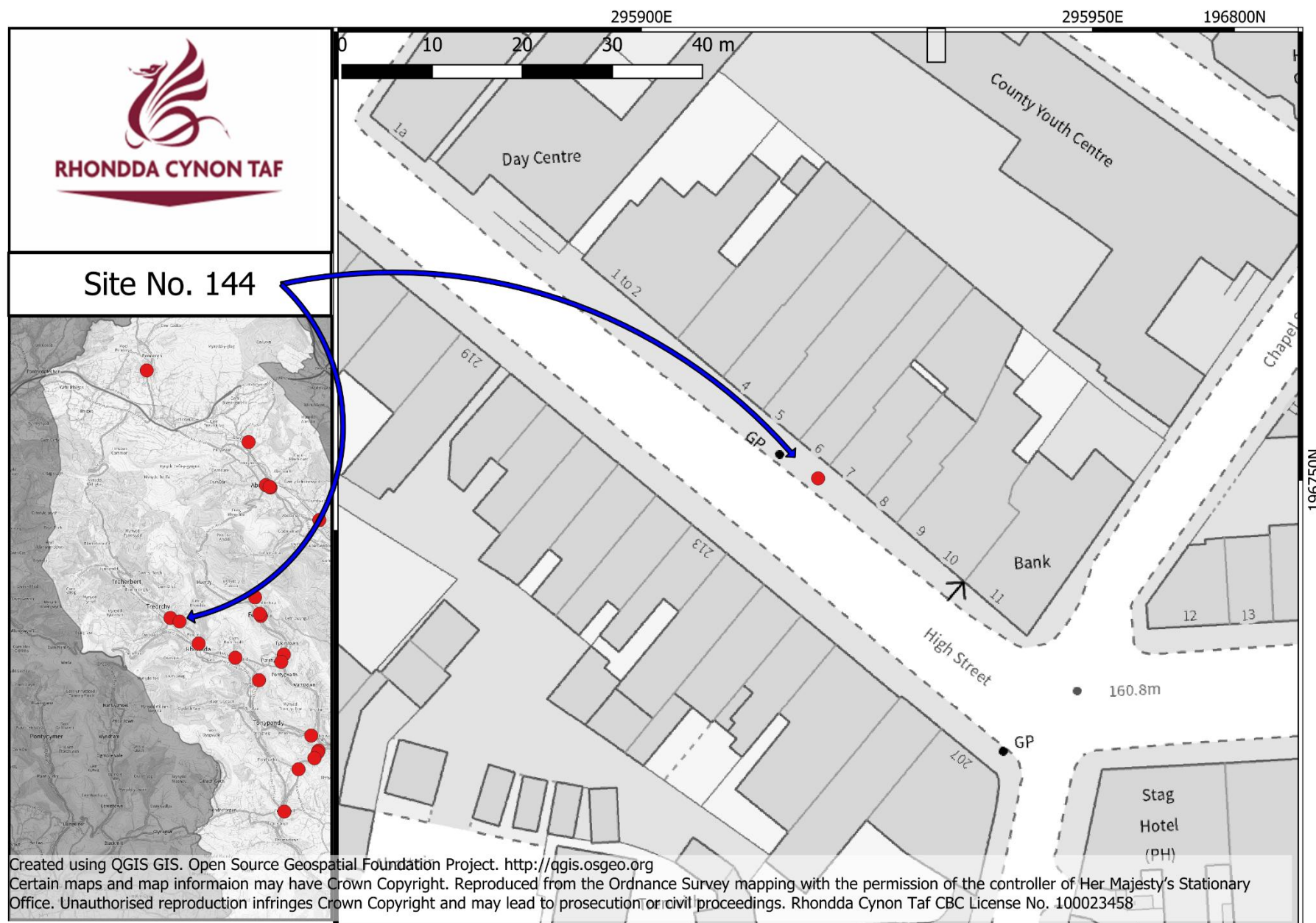


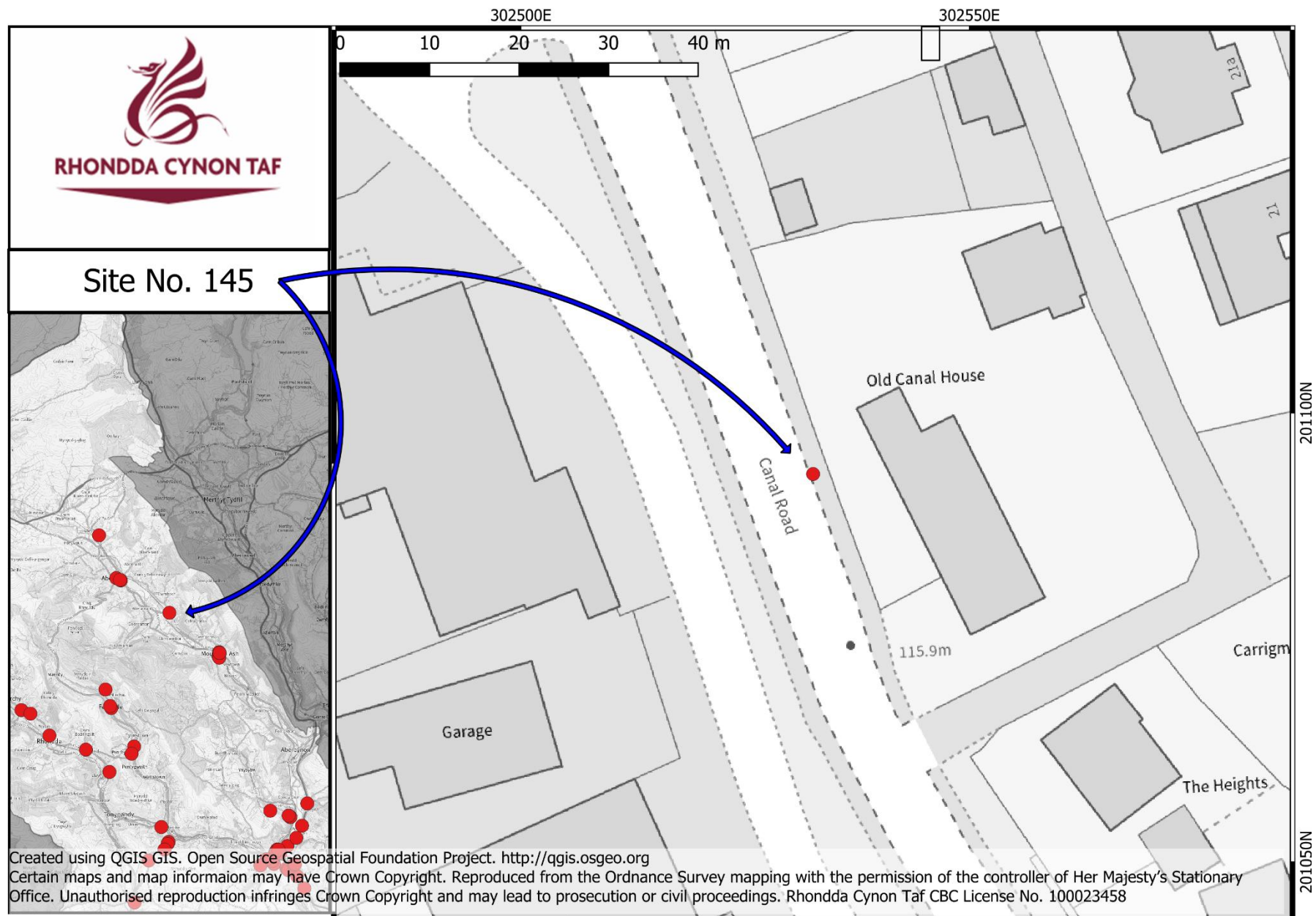






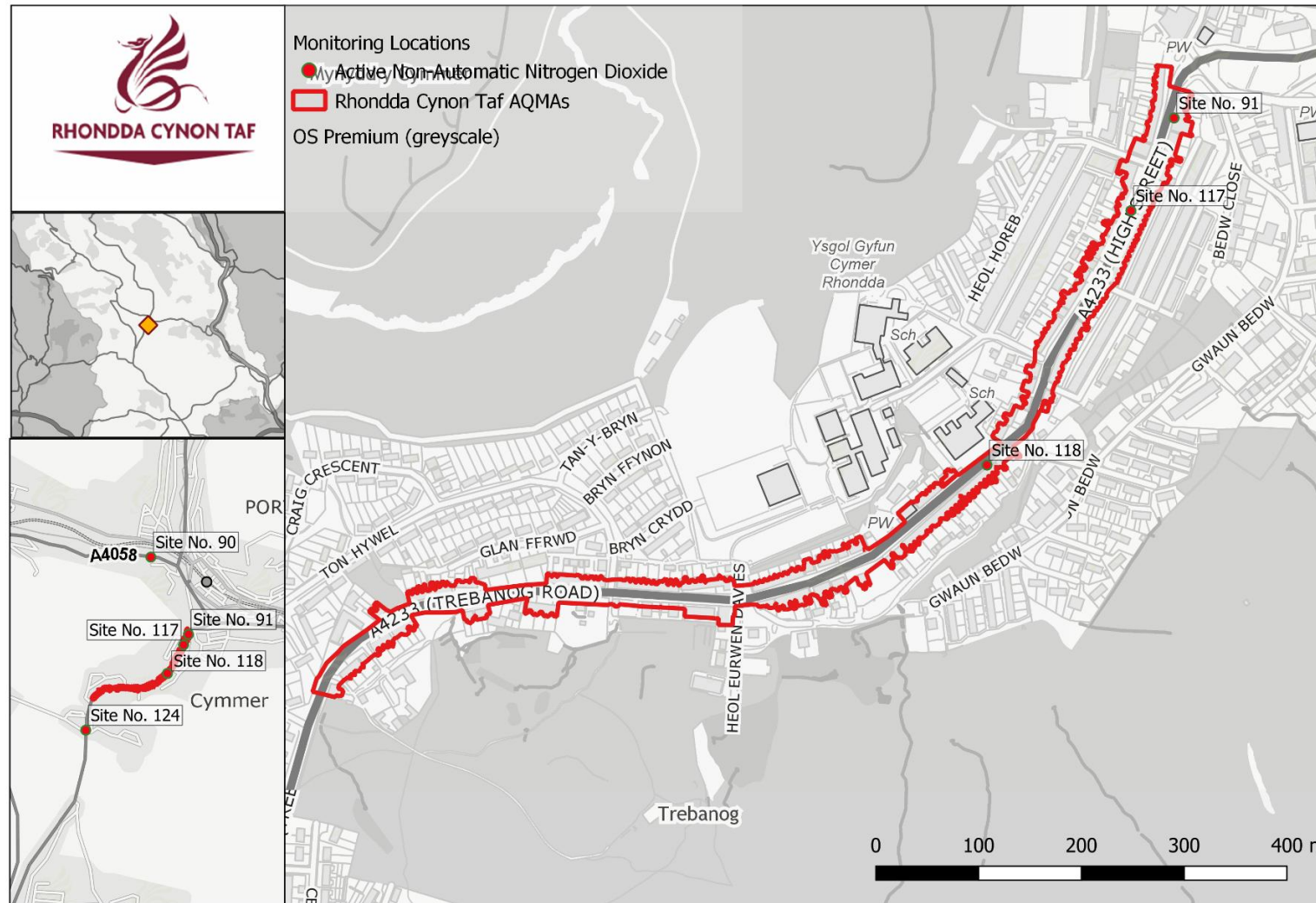






13. Appendix D1: Current AQMA Boundary Maps

Figure D.1: Cymmer Air Quality Management Area



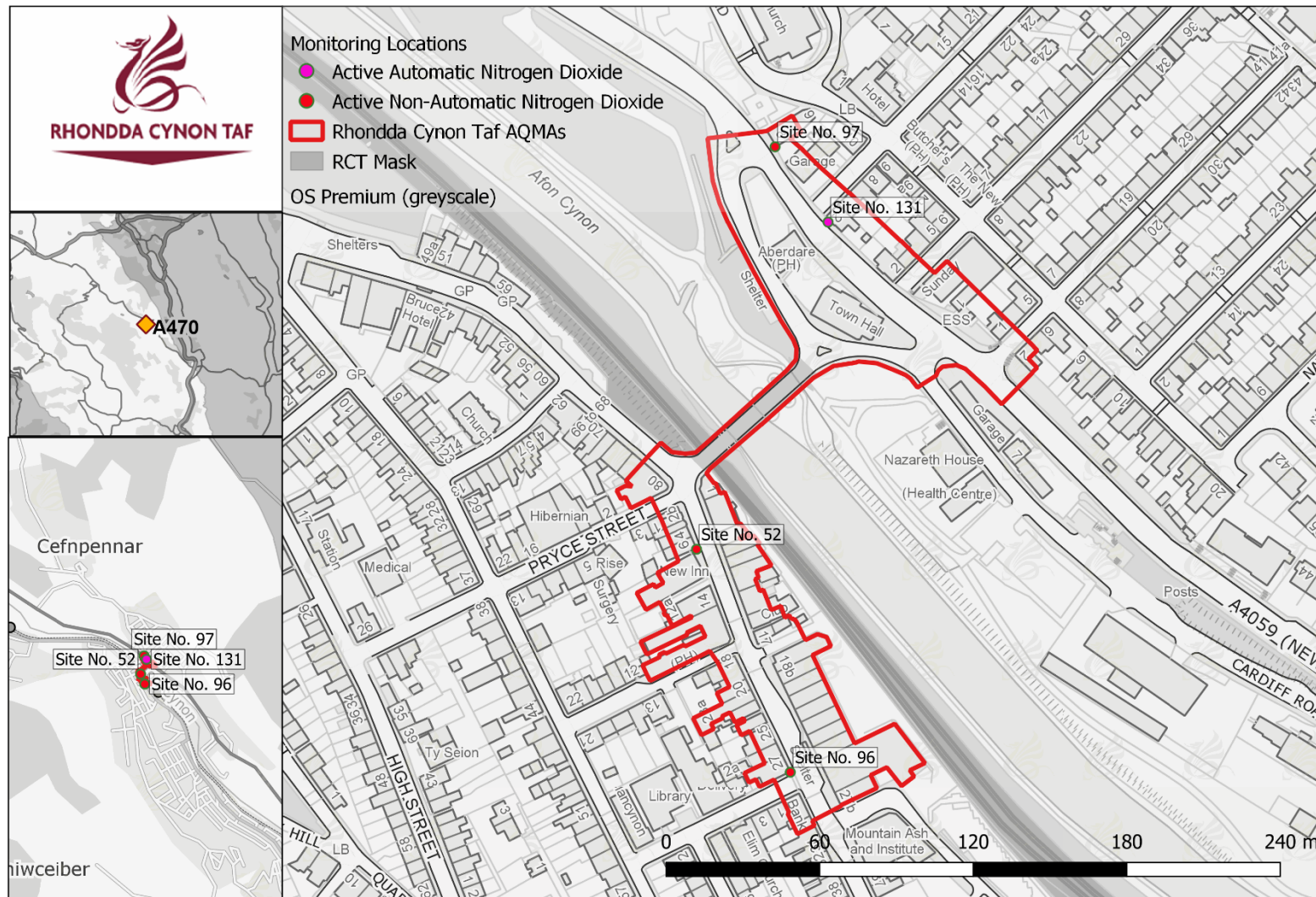
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Figure D.2: Ferndale Air Quality Management Area



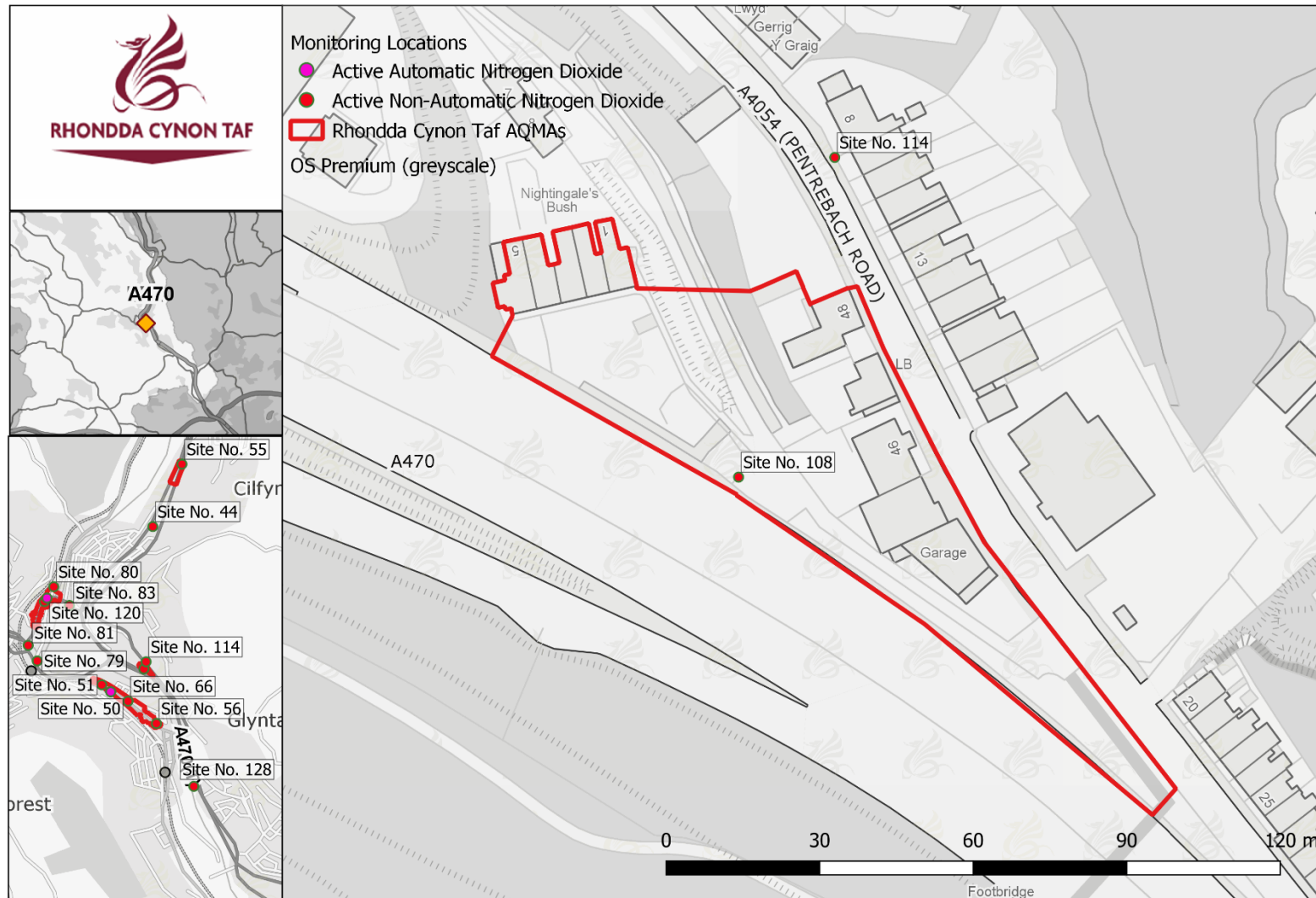
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Figure D.3: Mt Ash Town Centre Air Quality Management Area



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Figure D.4: Nightingales Bush Air Quality Management Area



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Figure D.5: Pontypridd Town Centre Air Quality Management Area

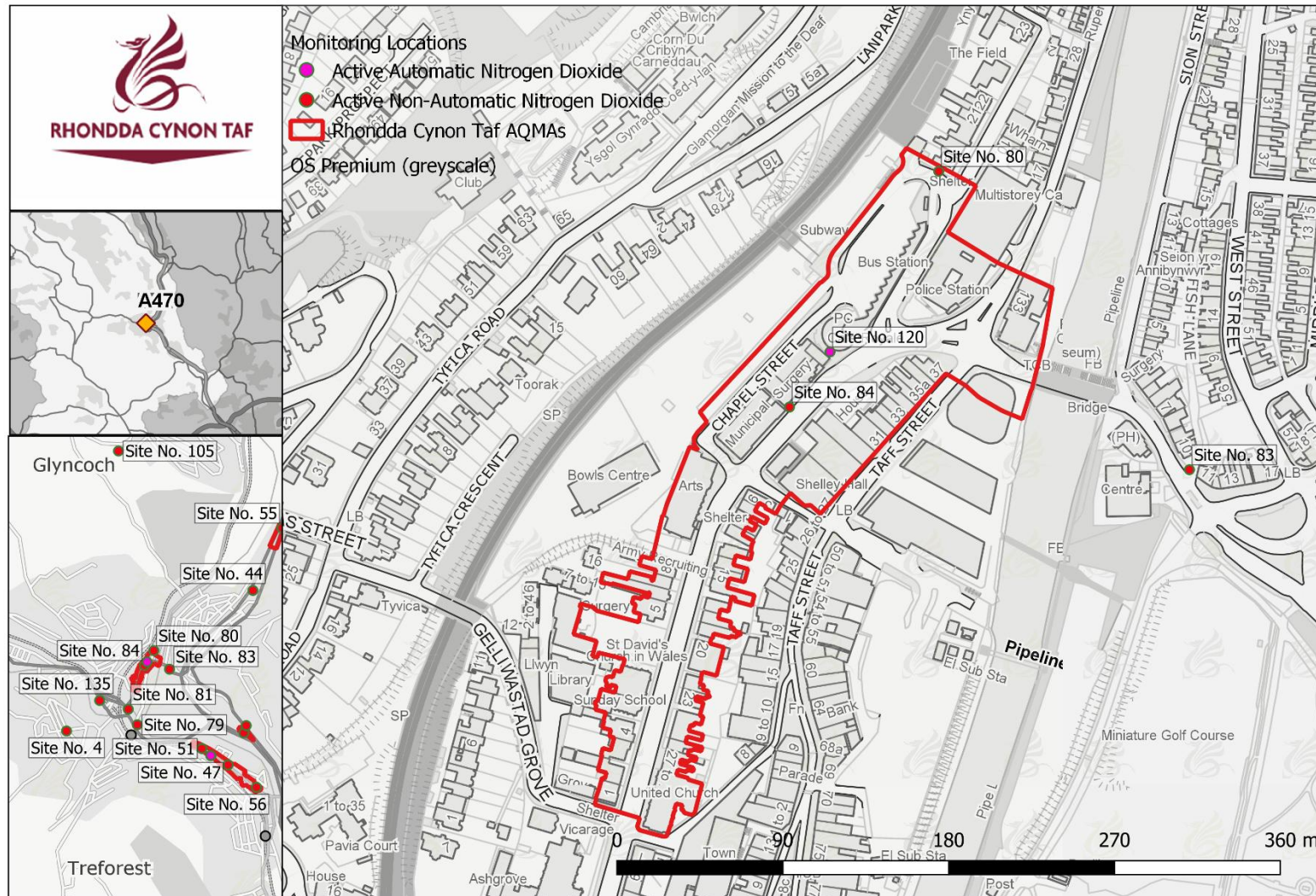
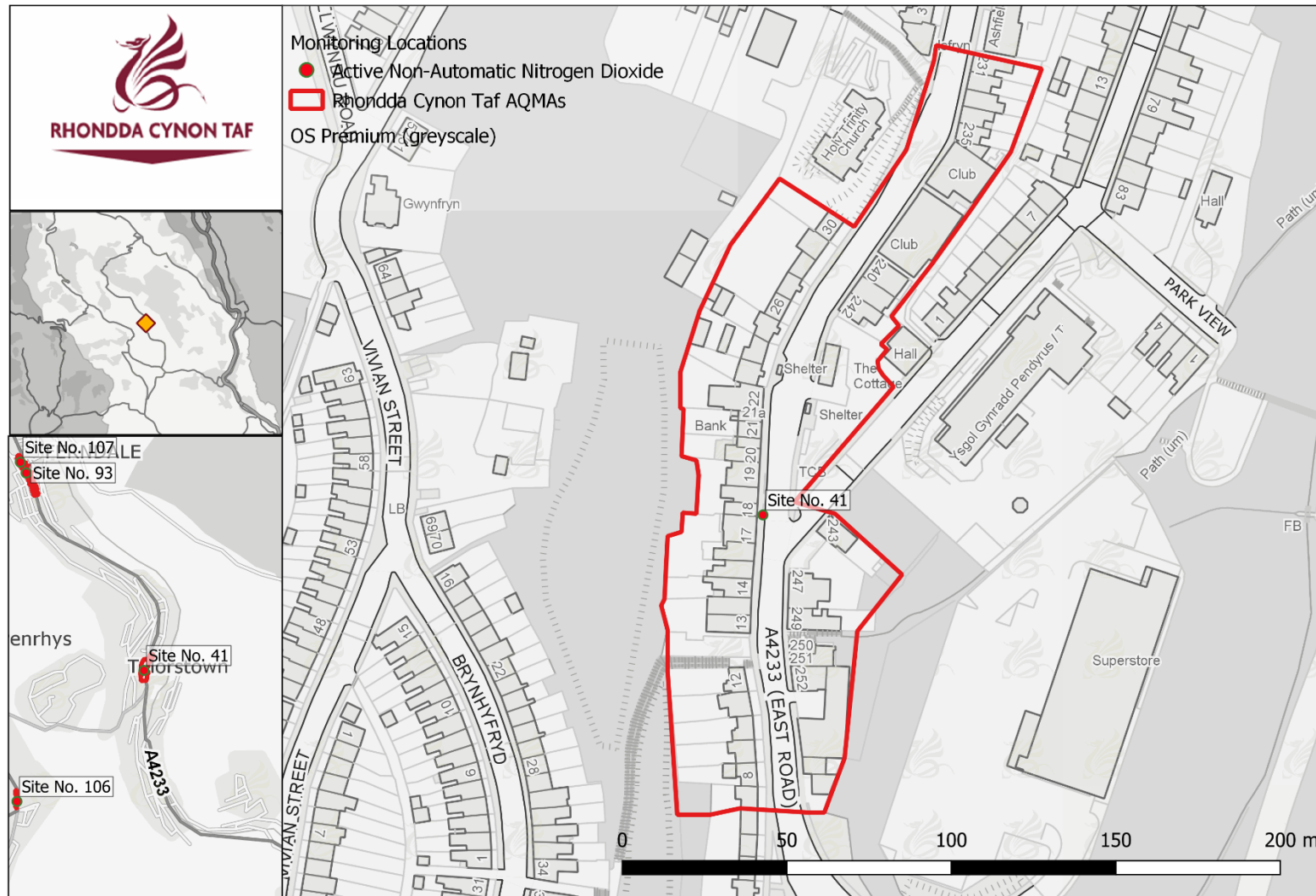


Figure D.6: Tylorstown Air Quality Management Area

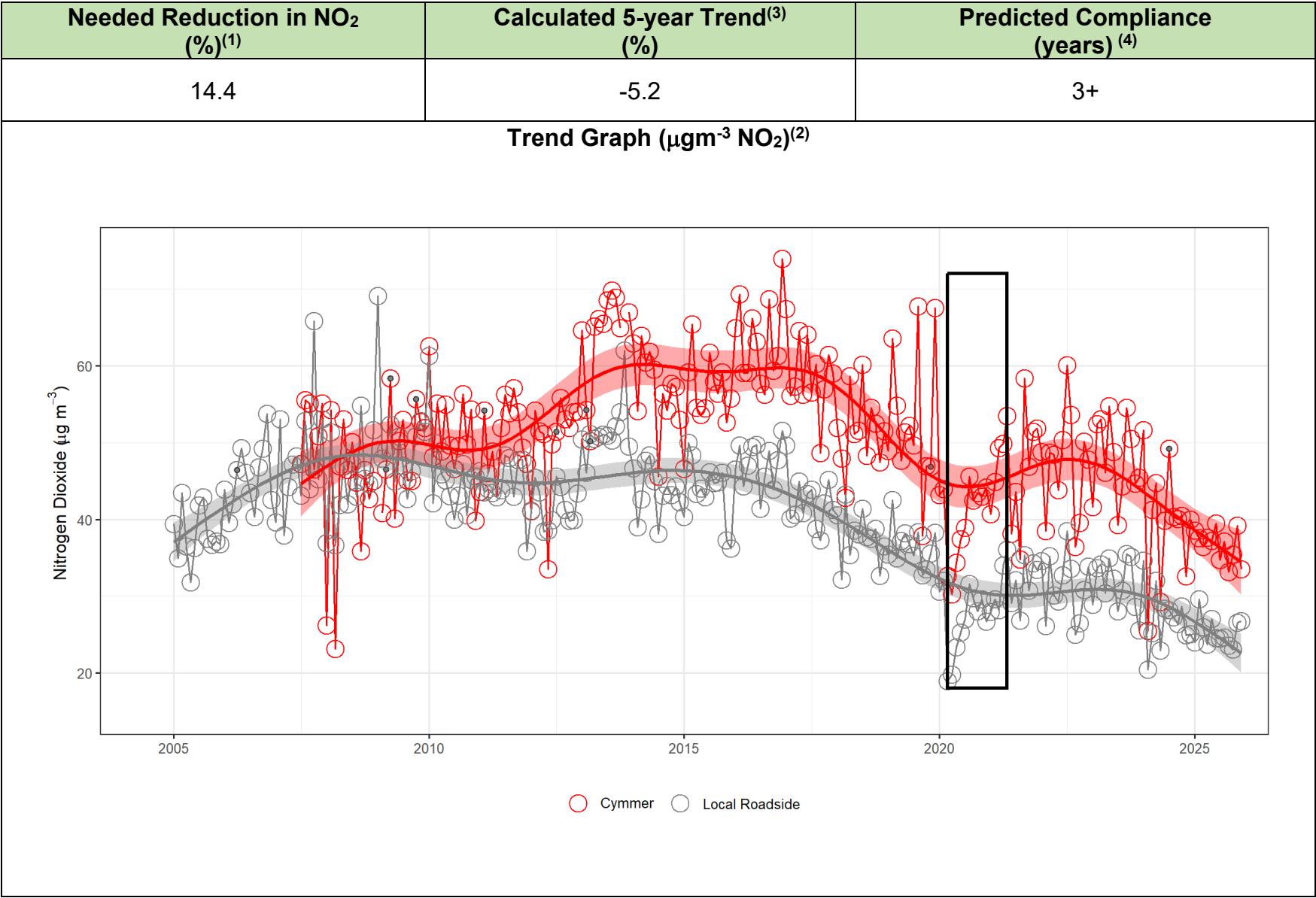


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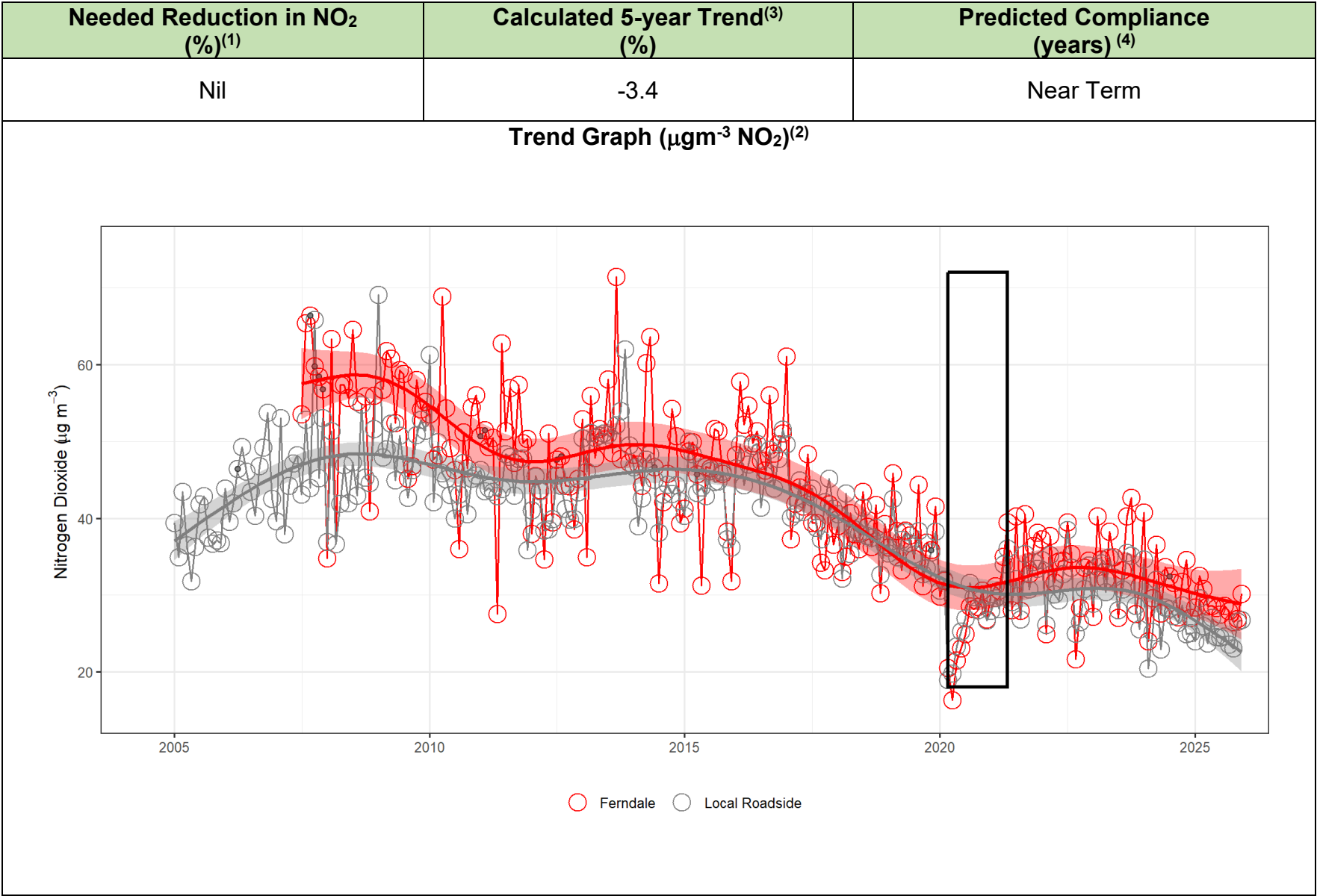
14. Appendix D2: AQMA Trends

The below tables contain information on the current trends in NO₂ within each AQMA, including visualisation of the continuing trend within the AQMA (in red) and a quantification of the most recent 5-year trend. In addition, the smooth trend plot includes the overall RCT Local Roadside trend (in grey) for comparison. The smooth trend plots have also been annotated with a black box for the potential period of most significant COVID-19 related disruption, as this may have influenced aspects of the longer-term trend. The most recent 5-year trend often gives more bearing to recent events which may be more relevant when considering the immediate future. Also provided is an assessment of the likely improvement in levels of NO₂ that may be necessary to achieve compliance to the relevant AQOs for NO₂ as well as, should current trends persist, a projection of when compliance may be achieved.

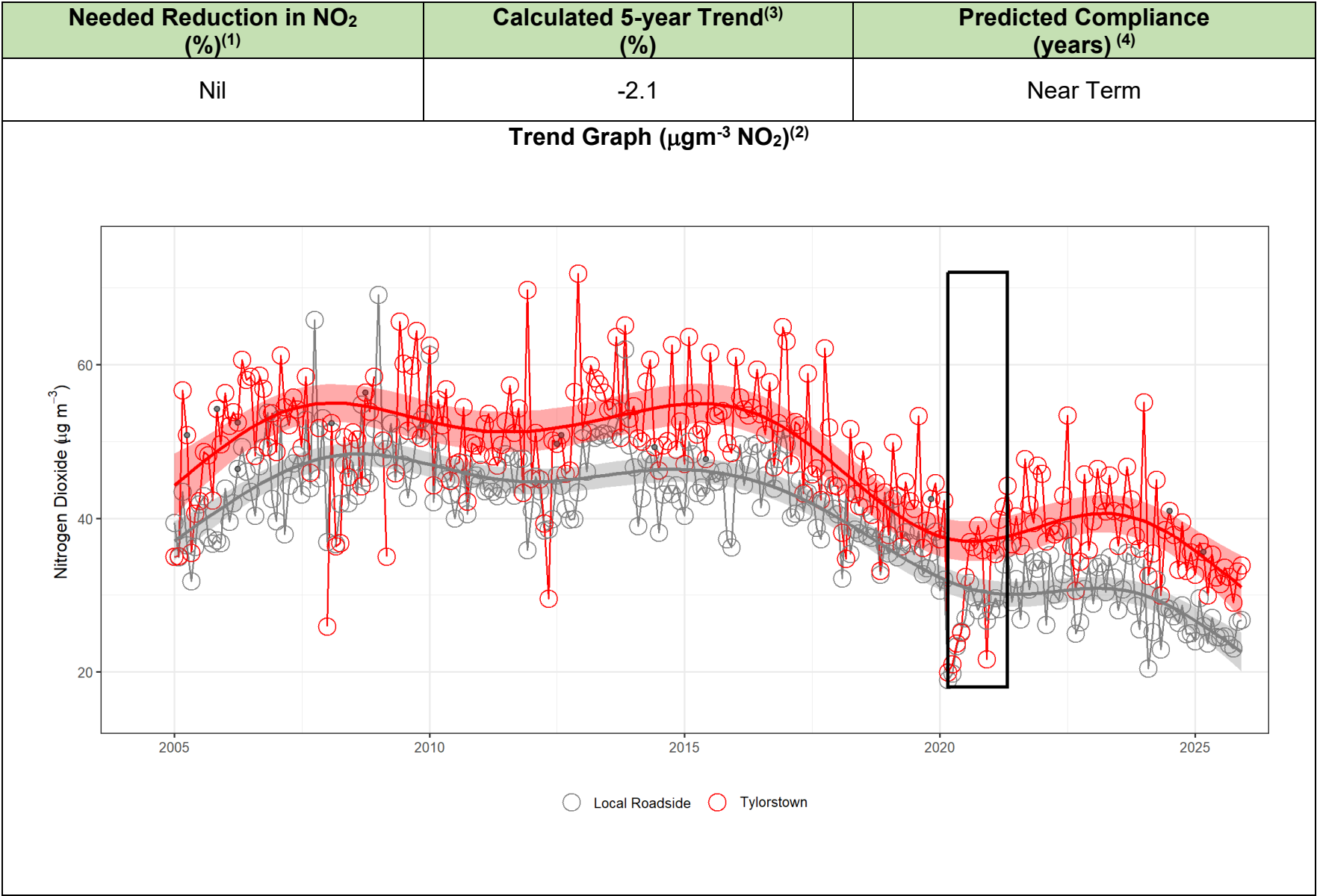
14.1 Cymmer AQMA



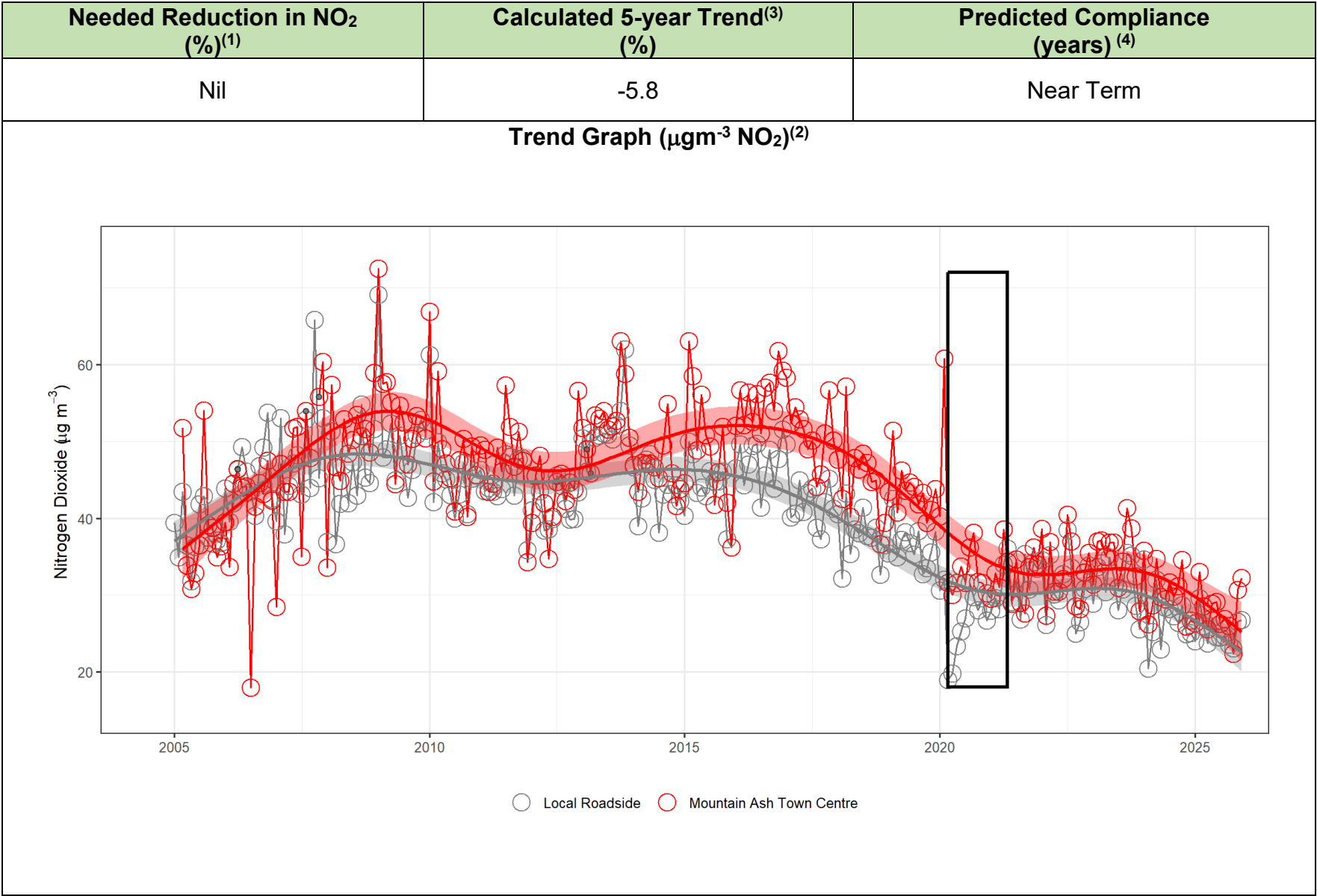
14.2 Ferndale AQMA



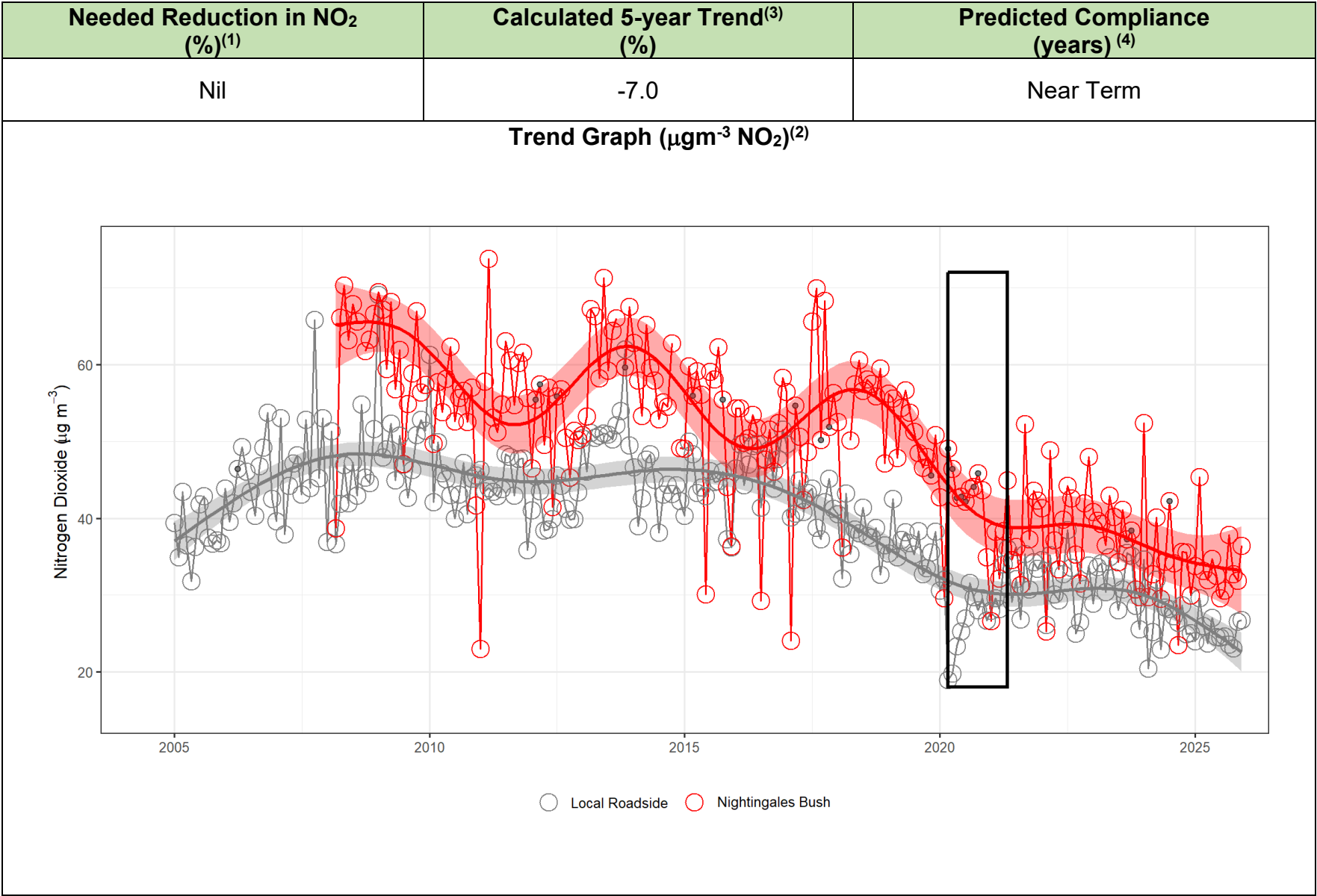
14.3 Tylorstown AQMA



14.4 Mt Ash Town Centre AQMA



14.5 Nightingales Bush AQMA



14.6 Pontypridd Town Centre AQMA

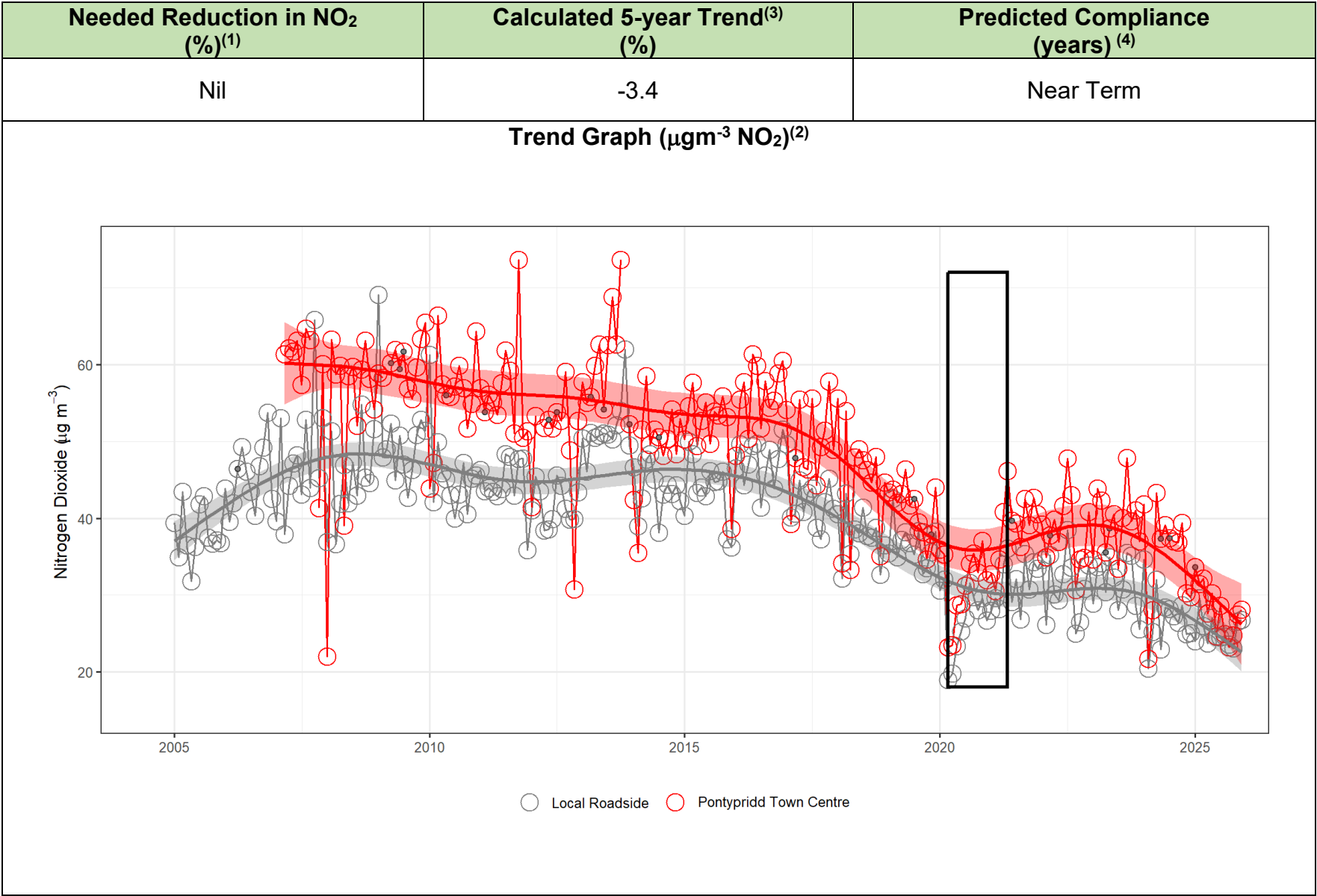


Table Notes

- (1) The required reduction in NO₂ determined on the three-year average at the worst case location within the AQMA. Due to the complex relationship between NO₂ and its precursors and sources, this is not a measure of the level of intervention required but rather a comparative indicator between AQMAs.
- (2) Trend analysis is indicative for comparison only and as an average may not be reflective of all areas within the respective AQMA.
- (3) Projected compliance periods are indicative only and do not necessarily take account of inherent uncertainties and future variables which may result in different real compliance periods.

15. Appendix E2: Current Air Quality Action Plans

15.1 Rhondda

15.1.1 Cymmer AQAP

Cymmer AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
Implement	AT1	New or improved active travel routes and supporting infrastructure within or serving Cymmer and neighbouring communities	2025	The total of length of new or improved relevant active travel routes
				The amount of investment in new or improved active travel routes
	AT3	Behavioural measures to influence travellers, to include the dissemination of information to support active travel and public transport as well as information on practices that can reduce the impact of all travel options.	2023	Delivery of schemes to increase travel information
				Favourable perspective of current public transport operators
				Delivery of schemes to increase modal shift
	LP1	A dedicated Special Planning Guidance policy that provides instruction to development control applicants on how to account for and address air quality considerations, including mitigation measures, associated with relevant proposed developments	2023	Opportunities undertaken to encourage active travel route usage
				Adoption of an SPG
	MT2	Improvement of public bus frequency for services serving Cymmer and neighbouring communities	2025	No. of additional or enhanced relevant bus routes
	OP1.Cy	Green Infrastructure, including hybrid barriers, within Cymmer	2025	Total length of green barrier at Cymmer
	OP2	Green Synchronism, to include policy's and actions that support ecology and biodiversity, within Cymmer and the wider region, that help to support existing or new green infrastructure which may support air quality improvements or	2025	Delivery of green infrastructure and biodiversity policies

		protections and may include awareness and educational activities to further improve the sustainability of relevant local green infrastructure.		
	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF6	Actions that support the adoption of alternative vehicle fuel by the Local Authority within its core fleet	2026	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF7	Actions that support the adoption of alternative vehicle fuel by service providers contracted by the Local Authority within their core fleet associated with services affecting Cymmer	2026	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RI7.Cy	The provision of new off-street parking within Cymmer	2025	No. of additional local off-street parking spaces provided in Cymmer
	RM2.Cy	The assessment and potential realignment of traffic flow bias at the traffic light controlled junction of High St and Glynfach Rd so as to favour greater traffic flow along High St.	2023	% relevant bias adjustment made
	RM5	Increased civil parking enforcement by the Local Authority along High St within the Cymmer AQMA	2023	% change in average speed within Cymmer AQMA
Reserve	RF8	Actions that support the adoption of alternative vehicle fuel by public bus operators along routes that serve Cymmer	2028	No. of additional hours spent patrolling relevant areas
				Delivery of the RCTCBC EV strategy in accordance with published schedule

15.1.2 Ferndale AQAP

Ferndale AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
20	AT3		2023	Delivery of schemes to increase travel information

		Behavioural measures to influence travellers, to include the dissemination of information to support active travel and public transport as well as information on practices that can reduce the impact of all travel options.		Favourable perspective of current public transport operators
				Delivery of schemes to increase modal shift
	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Opportunities undertaken to encourage active travel route usage
				Delivery of the RCTCBC EV strategy in accordance with published schedule

15.1.3 Tylorstown AQAP

Tylorstown AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
Reserve	AT3	Behavioural measures to influence travellers, to include the dissemination of information to support active travel and public transport as well as information on practices that can reduce the impact of all travel options.	2023	Delivery of schemes to increase travel information
				Favourable perspective of current public transport operators
				Delivery of schemes to increase modal shift
	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Opportunities undertaken to encourage active travel route usage
				Delivery of the RCTCBC EV strategy in accordance with published schedule

15.2 Cynon

15.2.1 Mt Ash Town Centre AQAP

Mt Ash Town Centre AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
Reserve	AT1	New or improved active travel routes and supporting infrastructure within or serving Cymmer and neighbouring communities	2025	The total of length of new or improved relevant active travel routes
				The amount of investment in new or improved active travel routes
	AT3		2023	Delivery of schemes to increase travel information

		Behavioural measures to influence travellers, to include the dissemination of information to support active travel and public transport as well as information on practices that can reduce the impact of all travel options.		Favourable perspective of current public transport operators Delivery of schemes to increase modal shift Opportunities undertaken to encourage active travel route usage
	MT2	Improvement of public bus frequency for services serving Mt Ash and neighbouring communities	2025	No. of additional or enhanced relevant bus routes
	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF6	Actions that support the adoption of alternative vehicle fuel by the Local Authority within its core fleet	2026	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF7	Actions that support the adoption of alternative vehicle fuel by service providers contracted by the Local Authority within their core fleet associated with services affecting Mt Ash	2026	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF8	Actions that support the adoption of alternative vehicle fuel by public bus operators along routes that serve Mt Ash	2028	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RM5	Increased civil parking enforcement by the Local Authority along New Rd within the Mt Ash AQMA	2023	No. of additional hours spent patrolling relevant areas

15.3 Taf

15.3.1 Nightingales Bush AQAP

Nightingales Bush AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
Imple ment	T1	Continued implementation of the A470 speed restriction of 50mph between Upper Boat and Pontypridd by the Highways Authority	-	To continue to be delivered and monitored by the relevant Highways Authority for the A470 at this location

	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Delivery of the RCTCBC EV strategy in accordance with published schedule
Reserve	LP1	A dedicated Special Planning Guidance policy that provides instruction to development control applicants on how to account for and address air quality considerations, including mitigation measures, associated with relevant proposed developments	2023	Adoption of an SPG
	MT1	Delivery of the South Wales Metro by Transport for Wales	2025	Achievement of phased development scheme in accordance with published schedule
	MT4.NB	Provision of additional park and ride spaces at existing or new facilities within the Rhondda, Cynon or Merthyr areas		No. of additional park and ride spaces in the Cynon, Merthyr and Rhondda areas, based on a 2022 baseline
	OP1.NB	Green Infrastructure, including hybrid barriers, within Nightingales Bush	2025	Total length of green barrier at Nightingales Bush
	OP2	Green Synchronism, to include policy's and actions that support ecology and biodiversity, within Nightingales Bush and the wider region, that help to support existing or new green infrastructure which may support air quality improvements or protections and may include awareness and educational activities to further improve the sustainability of relevant local green infrastructure.	2025	Delivery of green infrastructure and biodiversity policies

	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Delivery of the RCTCBC EV strategy in accordance with published schedule
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15.3.2 Pontypridd Town Centre AQAP

Pontypridd Town Centre AQAP Actions				Action Monitoring Method
Type	Ref	Description	Implementation Year	
Reserve	AT1	New or improved active travel routes and supporting infrastructure within or serving Pontypridd and neighbouring communities	2025	The total of length of new or improved relevant active travel routes
				The amount of investment in new or improved active travel routes
	AT3	Behavioural measures to influence travellers, to include the dissemination of information to support active travel and public transport as well as information on practices that can reduce the impact of all travel options.	2023	Delivery of schemes to increase travel information
				Favourable perspective of current public transport operators
				Delivery of schemes to increase modal shift
				Opportunities undertaken to encourage active travel route usage
	MT2	Improvement of public bus frequency for services serving Pontypridd and neighbouring communities	2025	No. of additional or enhanced relevant bus routes
	RF4	Actions that support the adoption of alternative vehicle fuel by the public and which are likely to reduce the dependency upon fossil fuels.	2025	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF6	Actions that support the adoption of alternative vehicle fuel by the Local Authority within its core fleet	2026	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RF8	Actions that support the adoption of alternative vehicle fuel by public bus operators along routes that serve Pontypridd	2028	Delivery of the RCTCBC EV strategy in accordance with published schedule
	RM2.Po	The assessment and potential realignment of traffic flow bias at the traffic light controlled junction of Gelliwastad Rd and Crossbrook St	2023	% relevant bias adjustment made
				% change in average speed within Pontypridd AQMA

		so as to favour greater traffic flow along Gelliwastad Rd.		
	RM5	Increased civil parking enforcement by the Local Authority along High St within the Cymmer AQMA	2023	No. of additional hours spent patrolling relevant areas

16. Glossary of Terms

Abbreviation	Description
Accuracy	A measure of how well a set of data fits the “true” value.
Air Quality Action Plan [AQAP]	A cost effective plan devised by a Local Authority to improve air quality.
Air Quality Management Areas [AQMA]	An area which a Local Authority has designated for action, based upon predicted or measured breach of an Air Quality Objective.
Air Quality Objective [AQO]	The concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. The standards are based on the assessment of the effects of each pollutant on human health including the effects on sensitive sub groups.
Annual mean	The average of the concentrations measured for the pollutant in one year. In the case of an AQO this is for a calendar year.
National Background Concentrations	The level of the pollutant predicted to be present using advanced modelling at a national level. Background concentrations added to local contribution (dependent upon unique local factors) is the total concentration
Benzene [C ₆ H ₆]	A liquid compound of Carbon and Hydrogen forming a stable aromatic “ring” structure. Mainly occurs due to the evaporation of petroleum.
1,3–Butadiene [C ₄ H ₆]	A gaseous compound of Carbon and Hydrogen forming a simple conjugated diene. Produced for specific industrial processes and as a by-product in the combustion of petroleum.
Carbon Monoxide [CO]	A gaseous compound of Carbon and Oxygen normally formed by the incomplete combustion of Carbon with Oxygen in an atmosphere with a deficiency of Oxygen.
Climate Change	Is the effect on the statistical distribution of weather over a period of time and caused by the increase in the mean temperature of the Earth’s near surface and oceans, triggered by the anthropogenic emission of greenhouse gasses.
Concentration	The amount of a (polluting) substance in a volume (of air), typically expressed as a mass of pollutant per unit volume of air (for example, microgrammes per cubic metre, µg/m ³) or a volume of gaseous pollutant per unit volume of air (parts per billion, ppb).
Confidence level	The degree of certainty at which the true value will be in a predicted range.
Coronavirus	SARS-CoV-2 virus and its variants
COVID-19	An infectious disease caused by the SARS-CoV-2 virus
Data capture	The percentage of all the possible measurements for a given period that were validly measured.
Defra	Department of the Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
Exceedence	A period of time where the concentration of the pollutant is greater than the appropriate Air Quality Objective.

Particulate Matter [PM ₁₀]	An atmosphere of regular and/or irregular particles with a significant probability of having a diameter of 10 µm and less. They are produced from a large variety of natural and anthropogenic sources.
Fine Particulate Matter [PM _{2.5}]	An atmosphere of regular and/or irregular particles with a significant probability of having a diameter of 2.5 µm and less. They are produced from a large variety of natural and anthropogenic sources.
Kurtosis	An index of the sharpness of the peaks in a data set
Lead [Pb]	A solid elemental metal. Lead is second only to Iron among the most widely used metals, having a broad range of manufacturing and construction uses. Historically also used as an anti-knocking agent in petroleum, however, its use has now been phased out in the United Kingdom.
Metrological effects	Effects of seasonal variations on the atmosphere. These effects can include temperature, atmospheric turbulence, prevalence of sunlight, etc and is often referred to as Winter or Summer Smog.
Modeling	The use of advanced stochastic simulations to predict a future variable, for instance the concentration of a pollutant in ambient air.
Monitoring Data	Data gained from monitoring using various scientific apparatus
Nitrogen Dioxide [NO ₂]	A gaseous compound of Nitrogen and Oxygen normally formed by the oxidation of Nitric Oxide with Oxygen in the air
Nitrogen Oxides [NO _x]	A generic term for all gaseous compounds of Nitrogen and Oxygen and normally comprising of Nitric Oxide and Nitrogen Dioxide
Nitric Oxide [NO]	An unstable gaseous compound of Nitrogen and Oxygen normally formed by the incomplete oxidation of Nitrogen with Oxygen in the air.
n th Percentile	A value that is the rank at a particular point in a collection of data. For example, the 99.8 th percentile of values for a year is the value that 99.8% of all the data in the year fall below, or equal.
Precision	A statistical definition of how closely readings within a range are to one another.
Annual Progress Report	An annual report providing the latest monitoring data and assessment of local development and policies for all pollutants of concern as well as progress in the implementation of AQAPs.
µgm ⁻³	Microgrammes per cubic metre of air. A measure of concentration in terms of mass per unit volume. A concentration of 1 µgm ⁻³ means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.
Ratification (Monitoring)	A critical review of all information relating to a data set, in order to amend or reject the data. When the data have been ratified they represent the final data to be used (see also validation).

Running Mean	A mean composed of overlapping time periods. For instance, an 8-hour running mean is calculated every hour, and averages the values for eight hours. The period of averaging is stepped forward by one hour for each value.
Skewness	The bias to asymmetry of a data set
Sulphur Dioxide [SO ₂]	A gaseous compound of Sulphur and Oxygen normally formed by the oxidation of Sulphur with Oxygen in combustion processes.
TEA	Triethanolamine. Used as an absorbant for NO ₂ in Palmes type passive diffusion tubes.
Transboundary effects	The effects caused by the long distance transportation of air pollutants, typically across national borders. Examples are the Saharan dust episodes and the Central Europe particle episodes.
Validation (Monitoring)	Screening monitoring data by visual examination for spurious and unusual measurements (see also ratification).
Validation (Modeling)	The general comparison of modeled results against monitoring data carried out by the model developer to ensure the model is "fit for purpose".
Verification (Modeling)	A comparison of modeled results versus monitoring results at relevant local locations.
WG	Welsh Government